Lumleian Lectures

ON THE

PATHOLOGICAL RELATIONS OF THE VOICE AND SPEECH.

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LECTURE II.—PART I.

MR. PRESIDENT AND GENTLEMEN,—In my last lecture I discussed the mechanical and acoustical principles of the functions of voice and speech. I pointed out the fundamental importance of the chest and its contents as a collective organ for the regulated discharge of air over the vibratile vocal cords and through the articulating cavities of the mouth and nose. I considered briefly the action of the larynx: first, in allowing the escape of silent breath; second, in imparting to the expired air that toneless flutter which is the basis of whispered speech; third, in the production of the musical sounds of the natural voice; and, lastly, in the causation of falsetto notes. And, in conclusion, and at much greater length, I discussed the means by which articulate sounds are uttered, the various characters of these sounds, and their mutual relations.

The complexity of the combined processes concerned in phonation, and *a fortiori* of those concerned in articulate utterance, is confessedly very great. It is remarkable, even if we regard it from the point of view of the number of separate parts whose co-operation is needed for their due performance. But from this point of view the simple respiratory mechanism would seem more complicated than the mechanism of the larynx, and the latter more complicated perhaps than that by which articulation is effected. The reverse of this, however, is undoubtedly the fact; and, indeed, but little consideration is required to make it clear that complexity of mechanism and multiplicity of parts are by no means correlative conditions. The variations in the capacity of the chest, on which inspiration and expiration depend, are due simply to the alternate actions of antagonistic groups of muscles under the influence of special groups of nerves. And although the thoracic framework is of complex structure, and the muscles and nerves which determine its movements are very numerous, and apparently highly complicated in their arrangement, the entire mechanism is of such a character, and the combined movements of which it is capable are so few and simple, that it should be an easy problem to collect, so to speak, into the hands of some central power the strings by which the various co-operant parts may be brought into harmonious action. Indeed, the respiratory acts, notwithstanding the extremely delicate gradations of force of which they are susceptible, and their marvellous precision in association with speech and music, constitute one of the simplest examples of co-ordinated movements. Their co-ordinating centre is well known to be situated in the medulla oblongata; but this (for the purposes of speech and voice) is clearly under the influence, or the agent, of some higher co-ordinating centre, which brings its actions into due relation with those of these associated functions.

The movements of the larynx, again, despite the perfection of its mechanism and the infinite series of graduated sounds to which it may be adjusted, are only in a slight degree more complicated than those of the thorax. They consist essentially in the opening and closing of the glottis and the stretching and relaxing of the vocal cords; the latter actions, on which alone the variations of the pitch of the voice depend, being determined simply by the regulated contraction of certain groups of muscles. It is clear, then, in this case as in the last, that apparent complexity becomes on analysis comparative simplicity, and that the co-ordination of the laryngeal movements for song and speech, as a motor problem, presents but little difficulty. The centre for the combined movements of the larynx is seated in the medulla; but it is obvious that for the utterance of notes in musical sequence it is subordinate to some centre of higher attributes.

The muscular actions on which the production of articulate sounds depends are different from either of those groups which have just been considered, inasmuch as, while they seem to demand less nicety of adjustment in the contraction of the different muscles engaged, they involve a much wider range of motor combinations. That less nicety of muscular action is required for speech than for phonation, or for the regulation of the discharge of air from the lungs, seems obvious when we consider how in the one case the force with which the air is expelled has to be adjusted accurately not only to the different degrees of loudness of the voice, but to the different degrees of obstruction occurring in the larynx and mouth, and how in the other case the minutest variations in the amount of force which the muscles exert upon the vocal cords are attended with appreciable differences in the pitch of the resulting notes; while the different articulate sounds, though requiring special arrangements of the organs of speech, admit, within certain limits, of much variety in the details of these arrangements. But that they involve a much greater variety of motor combinations is quite certain. For while the actions of the thorax are simply those of inspiration and expiration, and those of the larynx, so far as mere phonation is concerned, simply relate to the more or less tension of the vocal cords, every single literal sound or element of spoken language is characterised by a specific arrangement of the organs of speech. The number of these distinct motor combinations, however, is much less formidable than might at first sight be supposed. It will be recollected that in my last lecture I enumerated fourteen distinct vowel-sounds as existing in English, and half a dozen more which are special to certain other European languages, together with twenty-four distinct consonantal sounds characteristic of our mother tongue, and about five others of foreign birth. I do not by any means intend to imply that these forty-nine distinct sounds include all possible articulate sounds, or even all those which competent authorities recognise among European languages; or that there may not even be, as some assert, articulate sounds in our own language to which I have given no place in my scheme. But I am satisfied that the specifically distinct articulate sounds in the English, and probably in any other language, are, at any rate, under fifty. If, indeed, we eliminate the surd letters, which, so far as their oral manufacture is concerned, are identical with their several sonant varieties, the articulate sounds of our own language become reduced to twenty-nine. It is certain, however, that the exercise of speech as an art involves much greater difficulties than the mere distinct utterance of twenty-nine, or even fifty, different sounds. Letters have to be associated in words in almost endless combinations, and the passage from the position of the organs for one letter to that of their position for any other letter has to be effected with readiness and precision. The difference, in fact, between the mere capability of uttering so many different letters and the art of readily combining them in speech is very much the difference between simply striking solitary notes of a musical instrument with the finger and the playing upon them in orderly sequence by the hand of the skilled musician. That the centre for the co-ordination of those movements of the mouth, tongue, and fauces which are concerned in mastication and deglutition is situated, with those for respiration and the ordinary actions of the larynx, in the medulla oblongata, is doubtless true. But it is at least probable that the centre for the co-ordination of the movements concerned in articulation is situated in some different and higher part of the encephalon, probably the corpus striatum. At the same time, there are many reasons for believing that the superior centre for spoken language—the centre whence the impulse to express our thoughts in words starts—is only indirectly concerned in the co-ordination of those groups of movements which by their sequential association determine speech. In other words, it seems probable that, when the mind wills to express itself in articulate language, it effects its object automatically—not by acting directly from the speech-centre on the nerve-nuclei of the nerves distributed to the organs of speech, nor even on the co-ordinating centre for the simple acts of mastication and deglutition, but on some other centre which governs the specific movements for the utterance of articulate sounds and their facile combination.

I have thus far considered, imperfectly I admit, the processes by which intellectual and musical conceptions and recollections arising in the superficial grey matter of the cerebral hemispheres become expressed respectively in spoken language and vocal music. It may be interesting, on the other hand, to consider briefly the converse processes by which musical and articulate sounds are conveyed to the supreme centres for the reception and cognisance of acoustical impressions. The modes in which the peripheral ends of the sensory nerves receive impressions, and these impressions are conveyed to the central organs, and thus become modified into perceptions, are doubtless in many respects identical. It will be allowable therefore to argue from the eye, as the better-understood organ, to the ear as an organ the functions of whose parts have scarcely yet been clearly determined. The peripheral ends of the fibres of the optic nerves appear each to be connected with a special end-organ—a rod or cone,—which is adapted to receive and transmit impressions due to the rays of light which impinge upon it. We have no reason to think that any one of these end-organs does more when exposed to its proper stimulus than receive a single impression of light of a certain quality and intensity, or individually transmit to the sensorium anything beyond that single formless and limitless impression. The knowledge which we derive through the eye of the size and shape and other visual attributes of objects depends upon the fact that cones of light emanating from minute yet definite points of their surface are brought individually to a focus by the optical arrangements of the eye upon the ends of appropriately situated rods and cones. The retina, in fact, is a mosaic of which each element receives a single elementary impression, which, taken alone, has no meaning or significance beyond the fact that there is light of a certain intensity and colour, but which, taken in connexion with the simultaneous impressions made on the artificially arranged elements which surround it, carries to the mind simultaneously, but piecemeal as it were, an accurate representation of the picture formed on the retina. That is to say, the picture of any object which impresses itself on the mind as a concrete whole, and which is only resolved into its simpler elements by a mental effort, is actually in its progress to the sensorium divided by the retina into innumerable bits, and carried inwards in innumerable distinct streams, of which individually the mind has no separate cognisance, but which collectively produce a compact impression or perception. It is doubtless essentially the same in regard to the transmission of auditory impressions. But here geometrical relations become unimportant, while those of time and the qualities of the impressions rise into special importance. The vibrations which produce sound are waves of alternate condensation and rarefaction. Those which cause musical sounds are rhythmical, the pitch of notes being directly proportional to the rapidity with which the vibrations follow one another. The different qualities of musical sounds depend on the association with the fundamental vibrations (or those which determine the pitch of notes) of rhythmical vibrations of greater rapidity which are in harmonic relation with them; and these associated groups of vibrations differ largely in relative intensity, and in number in different cases. So that definite musical notes, with their associated harmonics, present in many cases extreme complexity. As regard sounds which are not musical, no definite rule can be stated of them, except that they are due to vibrations, which may be solitary, or, if grouped, are irregular in sequence and loudness, or are rhythmical but follow one another too slowly to become blended into a musical note. It will be recollected, moreover, that many sounds, like those of articulate utterance, which are not necessarily musical, owe their distinctive qualities to groups of resonances or harmonic tones which their fundamental sound, be it what it may, wakes into being. Now, how are these groups of variously compounded vibrations, which even the comparatively uneducated ear distinguishes as the product, in one case of the harp, in another of the organ, in another as a literal sound, and in yet another as the voice of a friend or relation, absorbed, so to speak, by the essential parts of the ear? How are they carried to the sensorium? And how do they there become or produce those concrete perceptions which reveal their several sources? We know, in the first place, that every impulse or wave which falls on the membrana tympani produces a corresponding backward and forward movement in that membrane, that every musical wave, with all the subordinate waves which accompany it, are accurately represented in its vibrations, and, further, that concurrent acoustical impulses from different sources produce in the membrana tympani apparently tumultuous oscillations, which are, in fact, the mean of all the motor influences which are acting upon it. We know, in the second place, that the impulses which affect the membrana tympani are imparted through the chain of ossicles and fenestra ovalis to the perilymph, and thus still blended and apparently confused sweep over the keys of the cochlea. I am not aware that it is even yet known positively how sonorous impulses affect the peripheral terminations of the auditory nerve; but, at any rate, there are, in the anatomical details of the cochlea, and in the analogies afforded by the other senses, good grounds for the belief that every series of simple musical vibrations is caught up, as it were, by its own special portion of the cochlear mechanism, and carried thence by a particular nerve or group of nerves to some part of the central nervous apparatus. If this view be correct, every compound vibration, every group of compound vibrations, which falls upon the membrana tympani, and is carried thence in a concrete form to the essential parts of the ear, becomes there analysed and reduced to its simplest elements, each of which is carried separately along its particular route to the sensorium, there to be reunited with its fellows into a single specific perception.

The object I have had in view in making these latter remarks has been to show that, just as when we will the performance of some special act (say the utterance of a word) the concrete impulse which alone exists in the brain is transmitted along special fibres to special co-ordinating centres or agents, from these to a wider range of subordinate centres, and thence to the innumerable nerve-fibres which act directly and in due proportion on the various muscles, whose duty it is in combination to perform the specific duty required of them, so conversely the objects of our sensations, which are presented in a concrete form to our organs of sense, are analysed by them with extraordinary minuteness, are carried with infinite subdivision by the corresponding sensory nerves to their nuclei of origin and to co-ordinating centres, whence they are transmitted to the sensorium, where again they concrete into a single picture or perception—where the unravelled threads of sensory impressions are again woven into the patterns from which they were derived.

I ask pardon for whatever in the foregoing observations may appear to be trivial, irrelevant, or erroneous. I acknowledge that some are crude, and that I have been tempted here and there to diverge into discussions which I should probably have done well to avoid. Still, there are, I trust, some things among them which will be found to have a more or less direct relation to those pathological questions which I now proceed to consider.

1. The first of these which I had proposed to myself has already been adverted to by my friend, Dr. Stone, in his suggestive Croonian lectures—I mean the subject of the auscultation of the voice and speech. I have hesitated whether, under the circumstances, I should introduce it here, but, for reasons which I need not specify, reconsideration has decided me to adhere to my original programme. Bronchophony, pectoriloquy, and ægophony, are the names which are applied to the different varieties of sound, due to articulate and vocal utterance, which reach the ear of the listener, applied directly or through the intervention of the stethoscope, to the chest. The meaning of ægophony is well understood. It signifies a tremulous or bleating high-pitched modification of bronchophony, generally audible in cases of moderate pleuritic effusion over the lower part of the back of the chest. It is, as Dr. Reynaud holds, "merely a remote bronchophony," and its peculiarities are due, as Dr. Stone has, I think, distinctly shown, to the fact that from some special causes interfering with the uniform transmission of sound (in pleuritic effusion to the presence of a layer of fluid between the lung and chest-wall), the deeper and coarser vibrations of the fundamental tones of the voice are arrested in their transit, while the finer and closer undulations of their harmonics filter through, and either alone or mainly reach the ear of the auscultator. But what are the meanings of the terms bronchophony and pectoriloquy Most practical physicians profess to know, and yet I make bold to say that scarcely anywhere will be found an intelligible, or, at any rate, accurate, statement of the distinctions which, I think, undoubtedly exist between them. That Laennec himself recognised a clear practical difference between pectoriloquy and bronchophony few, I should think,

can doubt. At the same time his descriptions of these conditions are so confused that after perusing them one is tempted with Skoda to assume that "Laennec's pectoriloquy and bronchophony represent one and the same phenomenon." His descriptions, however, are evidently vitiated by two facts—one being that from a very early period he adopted the theory that pectoriloquy is heard only over cavities, and is due to the resonance of the voice in cavities, while bronchophony is developed in the course of tubes; the other being that he had no clear conception of the essential distinction which there is between simple laryngeal intonation and the articulate utterances of the mouth and associated parts. He consequently had a tendency to call all those increased vocal resonances which were heard over presumed cavities pectoriloquy, and all those which were audible over solid lung permeated by tubes bronchophony. And his descriptive difference between the two conditions amounts simply to this—that in pectoriloquy the voice appears to come directly from the chest, and to pass wholly through the central canal of the stethoscope, while in bronchophony the voice seems to pass only in part through the stethoscope. It need scarcely be said that his theory was wrong, and that his descriptions as they stand are inaccurate and fanciful. Nevertheless, I am inclined to think (though agreeing, so far, with Skoda as to believe that he constantly confounded the two conditions) that in the typical cases of pectoriloquy, to which he originally gave this name, he meant to imply that he actually heard the patient's articulate utterances as well as his laryngeal sounds. But he evidently confounded, in some way or other, loudness of laryngeal intonation with distinctness of articulation.

Skoda affirms that Laennec's pectoriloquy and bronchophony represent one and the same phenomenon, and consequently discards the use of the former word as unnecessary. But he divides bronchophony into two varieties, the loud and the weak. The loud variety he subdivides into the loud clear form, "in which," he says, "the thoracic voice may be either as loud as, or louder or somewhat weaker, than the laryngeal voice, the articulation being at the same time distinguishable"; and the loud dull form, "in which the voice produces a concussion in the ear, but the articulation, and consequently the words spoken, are not recognisable." By weak bronchophony he does not designate "a mere humming, but a clear and audible voice, which produces little or no concussion in the ear; the articulation of the words uttered being generally distinctly heard." It will be observed, however, that notwithstanding his criticism of Laennec's views, he seems incidentally to allow the existence of that very distinction which I repeat that I am inclined to think Laennec intended—namely, that in certain cases of his bronchophony the articulate words may be recognised, while in other cases there is only a confused, though possibly loud, humming. I suspect that Laennec would have termed Skoda's loud clear bronchophony pectoriloquy; and that he would have regarded Skoda's loud dull bronchophony, and weak bronchophony, both as bronchophony, notwithstanding that in the last case the conveyance of the patient's articulate utterances to the auscultator's ear is described as being an essential factor of the phenomenon.

Walshe, in the main, appears to follow Laennec. He divides bronchophony into simple, pectoriloquous, and ægophonic. As regards bronchophony he says the sound conveyed to the ear of the listener is ringing and distinct, but unattended with appreciable articulation of the words spoken. Of pectoriloquous bronchophony he observes that its nature and significance are still *sub judice*. But he believes, as I do, that Laennec meant by pectoriloquy the specific propagation of articulate sounds to the ear; though I do not think with Walshe that Laennec ever says so expressly. And he himself likens it to the voice heard over the larynx, and says that it appears to pass directly through the stethoscope into the observer's ear, and may throw the concha, and even neighbouring parts of the skull, into more or less strong vibration. He continues: "Limited generally to a small and accurately defined space, it may have a hollow or ringing character or not. Though as a general fact loud, this is a wholly unessential property of pectoriloquous bronchophony, depending in great measure on the power of the laryngeal voice; the hollow and ringing characters, the insulation of the phenomenon, and its transmission in an articulated form through the stethoscope may be distinctly marked, even when the speaking voice is almost destroyed. When the physical conditions of its production exist in a patient thus reduced almost to a state of aphonia, it becomes peculiarly characteristic; low, muffled whispers pass directly into the ear, articulated sometimes with as much, if not more, precision than the laryngeal voice." He says elsewhere of laryngophony, to which he compares pectoriloquous bronchophony, that the voice is transmitted *imperfectly articulated*; and of natural bronchophony, of which bronchophony in disease is simply a variety, that the articulation is *very imperfect*; showing apparently (as is confirmed by his selection of names) that in his view pectoriloquy and bronchophony are mere grades of the same phenomenon.

The only other writer to whom I shall refer is Dr. Gee, who, in what, on the whole, is a very good account of these conditions, observes that pectoriloquy is nothing but a very clear bronchophony, and who evidently, therefore, like Walshe, Skoda, and many others, seems to regard pectoriloquy as being acoustically the same thing as bronchophony, but as bronchophony in its most perfect form, or the sound of the voice as it is heard normally over the larynx.

Now, I cannot venture to say that I have done full justice to the accounts which the eminent writers I have quoted have given of pectoriloquy and bronchophony; there is much in what they have written which, taken separately from the context, might seem to show that their views and mine are in the main identical; yet, on the other hand, there is much in them, and especially in their general tenour, which leads me to the opposite conclusion. It seems to me that none of them has, in relation to this matter, fully realised the importance of clearly distinguishing between the sounds evolved at the rima glottidis and the articulate utterances which are developed in the mouth, nose, and fauces. But it is clear that these two varieties of sound, though blended with one another and inseparable as they issue from the lips, are essentially distinct from one another in their seats of development and in their relations to the cavity of the chest. Sounds produced at the rima glottidis are from that very circumstance in a condition not only to be carried outwards with the expiratory blast, but to be carried inwards, and it may even be to be increased by resonance in the trachea and its tributary air-passages. While sounds developed in the mouth are not only, as a rule, of themselves much less loud and much less musical than laryngeal sounds, but being developed beyond the larynx, have, in order to reach the ear applied to the neck or chest, to be carried backwards against the breath-stream, and also to pass the barrier of a more or less perfectly closed glottis; and, indeed, it may, I think, be asserted that for the most part the laryngeal sounds accompanying speech are alone carried back into the air-passages, and thence to the auscultator's ear. This I regard as bronchophony. There are cases, however, in which, in addition to laryngeal sounds, articular utterances are transmitted from the chest-walls to the stethoscope. This is pectoriloquy. Bronchophony, then, means the conveyance to the ear of sounds developed at the rima glottidis; pectoriloquy the similar conveyance of sounds developed above the rima glottidis. The two conditions appear to me to be quite distinct, and though often, possibly in some degree always, united, never to run into one another, in the sense of being different gradations of the same phenomenon.

Bronchophony may be either vocal or whispered. In the former variety, which alone is ordinarily understood by the term, the phenomenon accompanies the natural tones of the voice, and, other things being equal, varies in loudness, quality, and pitch, according to the strength, quality, and pitch of the voice; and also, other things being equal, the deeper and stronger the voice the more unpleasant will be the vibration which it causes in the ear, and the more distinct the vocal fremitus which attends it. Whispered bronchophony, taken by itself, is little if anything more than expiratory tubular breathing divided into lengths which correspond to the words the patient utters. What we hear, in fact, with the stethoscope is the unmusical rush of air through the partially open glottis, on which the patient's whispered words are moulded. The sounds uttered do not correspond accurately in duration to the words themselves; for after some letters, and especially after the explosive consonants, a short supplementary rush occurs, which, though almost inaudible in ordinary conversation, is peculiarly loud and distinct on auscultation. Whispered bronchophony is unattended with the sensible vibration which vocal bronchophony inflicts on the ear and often on the hand. Since speech is always dependent on vocal or whispered laryngeal

sound, pectoriloquy cannot be present without bronchophony; but whenever the articulate utterances of the patient can be distinguished through the stethoscope, there pectoriloquy is present. I believe it to be a rare phenomenon; and that most frequently where it is supposed to be heard, either the patient's articulate sounds reach the auscultator through the air, and blend, unconsciously to him, with the sounds conveyed through the stethoscope, or that the inarticulate expiratory gusts of whispered bronchophony are taken for the articulate sounds which the patient utters to dictation, or for those which are given and expected in answer to some leading question. Nevertheless I feel satisfied that it is sometimes met with, and mainly, if not exclusively, in connexion with the whispered voice, in the production of which the glottis is partly open, and the conditions best adapted for permitting the sounds of articulation to enter the trachea are present. I do not propose to discuss the significance and importance of pectoriloquy and bronchophony. I am inclined, however, to believe that pectoriloquy is heard mainly over cavities.

MENTAL REFLEXES: HABIT.

BY J. MORTIMER-GRANVILLE, M.D.

(Concluded from p. 552.)

WE have, thus far, been speaking of mental reflexes which fall, so to say, upon natural functions and the automatic combinations wherefrom normal habits spring. In another series of reflexes, the mind reacts upon the nervous organism in such a fashion as to create new and abnormal combinations, thereby instituting habits unknown to health, and which do not fulfil any useful purpose in the economy. The disturbances already noticed changed the orderly rhythmical acts and processes they influenced, and rendered them morbid by inhibiting or perverting the automatic performance of natural functions. In these derangements normal combinations were seen to be superseded by abnormal states of the automatic centres; but in the series of phenomena to which we now turn, combinations are formed, and become the bases of habits that must be classed as new, rather than perversions of old and natural, performances. These new habits, springing into existence where nothing in the nature of habit previously existed, are superfluous, and in their essential character morbid. Into this category fall the majority of those involuntary muscular movements which have no purpose either of act or expression, and no inconsiderable proportion of the class of the contortions commonly considered choreic, but which in fact are *habits*, originally incited by some irritant, perhaps an uncomfortable article of dress, or imitated, as in the case of children, or adults with too weak or plastic minds and given to the unconscious reproduction in their own persons of the mannerisms and vagaries of those whom they admire or it may be only respect; as, for example, the gait and peculiarities of a public character are often reproduced in the persons of his immediate friends and followers. The particular carriage, deportment, and movements of the imitated are unconsciously caught by the imitator. These external distinguishing marks of the individuality are closely associated with habits and tendencies of the mind; and moral contagion often spreads by the propagation of, first, bodily, then mental habits. We begin by contracting tricks of the muscular system, observed and imitated, consciously or unconsciously; tricks of thought are communicated through, or reproduced by, these movements, associated states of feeling are set up or transmitted in due sequence, and in process of time the two minds are brought into harmony: or the process may be inverted, and mental sympathies and concords give rise to a similarity of bodily habits. There is abundant evidence in support of both theories of causation, and it is difficult to say which is the more probable explanation of any particular case of resembling, and seemingly acquired, personal characteristics. In any event, the *rationale* of the development consists in the operation of a reflex. By repetition the acts performed become habits, new automatic combinations are created, and the mannerisms of body and brain pass out of the category of performances, which may be directly prevented or controlled by the will, and become parts of the system of automatic actions over which the sway of volition is imperfect.

Instances of this morbid production of new combinations may be found in nearly all cases of chorea and hysteria. It is the custom to rest satisfied with the reference of these characteristic phenomena to a particular disease, by which I mean the name, not the state; but this reference explains nothing. It throws no light on the nature of the movements performed by hysterical and choreic persons to describe them as muscular jactitations produced by erratic or abnormal discharges of nerve-force, and to adduce in support of this physiological hypothesis the familiar fact that if disorderly action is restrained in one direction it will break out in another. The question is—Why are particular movements performed, and pretty constantly repeated, when any considerable liberation of energy occurs? The simple fact of a convulsive or spasmodic movement occurring repeatedly in any part of the muscular system is not sufficient to explain the similarity of its form in the same subject, on separate occasions; still less will it account for that close resemblance which is observed between manifestations of the same disease in different individuals. Nor is it enough to say that this is "the type" of the malady; because disease is not an entity or organism, but simply a state or affection of the organism in which the morbid action takes place. Neither is it possible to ascribe the formula of a disease solely to the weakness or tendency of the organism it affects. It is doubtless true, as often contended, that a morbid or disorderly discharge of nerve-force will travel in the easiest path, that is, the direction of least resistance; but many of the movements performed in disease are difficult and complicated. The will could scarcely reproduce them. The only answer to this question I take to be the fact that new automatic combinations are set up, either under the excitement of a special irritant producing a motor idea, or in obedience to the imitative faculty, as above alleged. To this it may be objected, with much plausibility, that most of the contortions exhibited by idiots and choreic or hysterical persons are, in fact, actions proper to certain of the lower animals, and therefore probably the result of a disorderly discharge of energy through disused but evolutionary centres. This is even true of many of the wildest gyrations and muscular vagaries of persons afflicted with chorea, in whom the will is impaired, or who are depraved in intellect. The masterpiece of creation seems to have been perfected by the accumulation of qualities and properties developed in lower organisms. Subordinate instinctive faculties have not been superseded in man, but placed under the domination of the will, restrained and repressed rather than extinguished, so as to subserve the higher purposes of the supreme organism. When from any cause the will is impaired in its power and authority, these lesser properties and qualities assert themselves unduly and independently. This is why the advance of paralytic disease is characterised by the display of animal or even brutish propensities: thievish and bestial appetites and habits proper to the lower animals, but existing in man, are liberated from restraint, and run riot. In short, underlying the intellectual nature of man are the instincts of the organisms below him in the scale of development; these are normally held in subjection by the will, but in the course of a disease which either suspends the control of the will by enfeebling it, or unduly stimulates the automatic system of energies, changes and manifestations take place which seem, and in a developmental sense are, retrograde. The reproduction of movements resulting from evolutionary combinations is a form of retrogression, and when the tendency to these automatic acts becomes clearly marked it undoubtedly indicates mental degradation or paralysis. Setting aside fanciful analogies, it may be noted that the clutching, brushing, scratching, pawing, and catching and prehensile movements generally, whether performed with the hands or the mouth, are the most significant of cerebral disease.

Our immediate concern is, however, with the acquired movements which create new combinations. I have only alluded to those which wake up pre-existent combinations in order to eliminate them from the argument, and dispose of what has been suggested as a plausible objection to my hypothesis. In the phenomena characteristic of chorea, hysteria, certain forms of epilepsy, and most varieties of nerve and brain disease, as well as in the class of contortions and convulsive movements which, being slight in themselves and unaccompanied by graver symptoms, are loosely described as "tricks"

and "habits,"—the first factor in the succession of causes, original and contributory, is mental. Either some sensory impression has suggested an act of volition which has been repeated and become a habit, or the act was at the outset voluntary or imitated. In this way special types of morbid movement are formed. The active cause of the motion may be a disorderly discharge of energy; and the force so liberated will, as I have recognised, travel in the lines of least resistance; moreover it will be apt to repeat any particular excursion, because the path has been prepared by previous explosions operating in the same direction; but even the formulæ of hysterical and epileptoid "fits" may be, and often are, determined by original inclination and convenience, or imitated from similar manifestations observed. It is the practice to regard the mental phenomena of epilepsy, and certain forms of hysteria, as the effects or consequences of injury done to the brain by the convulsive disease. I venture to think the mind disturbance generally *precedes* the development of the physical disease, but is overlooked. Epilepsy begins in dreams and reverie. The overexcited or insufficiently occupied mind of the child becomes a prey to dreams by night and mischievous "make-believe" by day. The self-consciousness of the brooding and moody girl falls a prey to prurient excitement alternating with debility. The self-debauching minds of the impure, at all ages, yield themselves the willing slaves of morbid imaginings in which they take pleasure. These mind-states react on the nervous system, and give rise to disturbances which deprave the organism, while they set up new combinations in the automatic system, and produce the phenomena of convulsive and automatic disease. What is called epilepsy in its formulated developments is, in its small beginnings, in the mind and consciousness.

It is the *mental* element of causation I want to bring out. In the case of states like those with which convulsive movements of the class we have been considering are commonly associated there will probably be need for general treatment to restrain the disorderly liberation of force by which the acts are performed; but so far as the movements are themselves concerned, the most promising mode of destroying a particular formula is to superimpose upon it some other automatic exercise which will stultify the first. It is in this way the course of physical training through which a lounging ploughboy is carried sets up his figure, braces his muscles, and causes him to abandon the loose habit and lumpy gait of the clod-hopper for the smart and steady bearing of a soldier. The bad habit could not have been cured without the creation of a good habit to extinguish it. The old automatic combinations which determined the awkward posture and bearing have been broken up or neutralised by the more recent formulæ which discipline has imposed. In the same way "tricks" and "habits," whether of facial contortion or limb jerking, are most readily cured by the creation of new habits of steadiness in gaze, of immobility, of rhythmical and precise movements of the extremities; whereas attempts to antagonise the morbid habit directly by the will, fail, and commonly increase the mischief they strive to mend. The one, and only sufficient, explanation of this experience I take to be that which the hypothesis of mental reflex supplies.

A special group of disorderly actions, which forms part of this set of phenomena, will illustrate the process of mental reflex still more conclusively. I allude to the habit of transposing or omitting the words in a sentence, or the letters in a word, in reading and writing, and misspelling in the latter exercise. Errors of this class are of several kinds. When the perceptive or the mentally constructive faculty is more acute and rapid in its operations than the muscular activity, so that in reading the understanding outruns the utterance or in writing the work of composition goes ahead of the pen, which must generally be the case with intelligent and practised readers or writers, there will be a certain proneness to drop the words in a sentence or the letters in a word. In original composition a rapid thinker composes in advance, and copies from memory the ideal phrase he has constructed. The mind, as it were, impresses the words on a scroll which is wound away as rapidly as it is filled. The higher faculty works in advance; and the automatic faculty is perpetually struggling to transcribe the writing that glides before it. There is conclusive evidence that the process of writing from dictation or copying is automatically performed; it may even proceed while the consciousness sleeps. The dioramic movement determined by the composer is frequently too rapid for the copyist, and words escape. When the difference between the two processes is very great, the higher faculty has, every now and again, to come to the aid of the lower, which has failed to transcribe the passing thought. When this happens habitually, the progress of the associated labour is interrupted, and almost any form of mistake or error may ensue. In an extreme case of this class the condition is identical with that which obtains when a man cannot carry a book in his hand without letting it fall the moment his attention is diverted. The power of automatic action seems to be suspended, or so impaired that it is unable to carry out a process which has been originated by the will, and then relegated to the control of its subordinate agent. When thought thus outruns the automatic action in writing, usually the later words of a sentence, the final letters of a word, are those dropped. In speaking or reading alike, it is an ideal image from which we read or recite. A practised reader sees far ahead of the word with which he is immediately engaged. If this were not the fact, an appropriate inflection of voice would be impossible. It is because children, or adults who are learning to read, or who decipher with difficulty, do not see what lies beyond the word they are construing, their utterance is devoid of emphasis. They cannot tell until the end of a sentence be reached whether it is a question, or simple assertion. A diffident but quick reader, on the contrary, not uncommonly worries himself with the pronunciation of a word some distance in advance of him, and even rehearses it mentally. When the automatic faculty is not enfeebled, but only slow, it is more common to find sentences and words left unfinished than deficient at the outset; but this rule scarcely holds good in practice, and is of small value in diagnosis, because if the automatic faculty is expert, though tardy, it tries to finish an imperfect sentence or word, and may do this by tacking on the first or last part of a subsequent word or sentence which has been imperfectly recognised while labouring with the first. The principle of these errors may be comprehended by anyone who will make the experiment of transcribing a few sentences written round a drum which revolves at a fair speed on a vertical axis, from right to left of the observer, and is so covered that a word only is seen at a glance. The automatic faculty cannot read in advance like the perceptive consciousness. When the perceptive or constructive power is slow or embarrassed in its action, the automatic faculty will sometimes continue to write the word kept standing before it, and either double the word or its letters. The same result is produced if, as often happens when the thoughts wander, the consciousness repeats itself. Again, in the act of trying back, words clinging to the perceptive faculty are apt to be transposed. This is a common fault, and its cause is located in the consciousness. It can seldom be automatic, as the subordinate faculty either writes, or utters, or drops the word before it. When repetition occurs this is due to the failure of the higher faculty to remove the copy. If the automatic faculty errs in this way, it will be by recalling a word already passed, and writing it or speaking it again, but that can only occur when no new word is before it. A mind wearied with too prolonged work is extremely prone to mistakes of the nature we are considering. Conscious of the effort it is making, the imagination will compose a whole sentence in advance, and fall into confusion in writing or speaking it. Some transpositions occur in this way, but they are more commonly the effect of wandering than weariness. A frequent cause of failure in the faculty of attention is striving to think of more than one thing at a time. It is of course *impossible* that the mind should be engaged with two topics at once. The expertness which seems to accomplish this feat is, in fact, a highly-developed power of glancing from one subject to another with great rapidity—a sort of mental trapeze-flying wherein the performer often gets an ugly fall, and may be permanently disabled. If he escape this calamity, there will probably come a time when he will discover that he has so impaired the power of application, that he can scarcely follow a long sentence or carry out a sustained process of reasoning. Those who are compelled by their daily avocations to practise this flying method of thought should for their own sakes make it a rule to read, if possible, aloud—in any case attentively—a chapter or two of some sufficiently engrossing work at short intervals, so as to cultivate the faculty of attention.

I have been speaking as though sight, visual or mental, were the only instrument of the consciousness.

Many persons write and speak by a process of sound-conception. In that case the ideal present to the automatic faculty for reproduction in written or spoken words is auditory. This gives rise to a special class of errors, in which words or letters having a similar sound are substituted, and the defects of pronunciation proper to an individual, a dialect, or a language, will predispose to particular mistakes. For example, *were* or *wear* will be written for *where*, *witch* for *which*, *wen* for *when*, if no difference in the sound is habitually recognised. The substitution of *is* for *his* or *er* for *her* is a common misadventure with those who do not aspirate the *h*, or the opposite error may be made by persons who either in jest or habitually sound the *h* when it is absent. *Knew* for *new* is a frequent blunder, and such substitutions as *cousin* for *cozen*, *not* for *knot*, *rap* for *wrap*, are obviously probable. It would be easy to multiply examples, but these will suffice. A curious circumstance in connexion with this writing or speaking from mental sound—and it is generally possible to detect the nature of the habit by the presence of either special class of errors in writing—is that the individual generally (unconsciously, it may be) composes in a peculiar rhythm, which is often adopted from some verse or song which impressed the mind in infancy. Occasionally the recognition of this rhythm or time will supply the key-note to character; and, perhaps, without being aware of the circumstance, it is by this suggestion experts in character-reading succeed in making very shrewd guesses as to the leading qualities and habits of a mind from handwriting. Persons who write or speak from an ideal of sound generally employ the same formula in the operations of memory. A man who uses mental sight in this way will gaze intently when he forgets anything, or perhaps close his eyes to avoid distraction, while a person who employs mental sound is more likely to put his finger to his lips, as though to enforce silence, and perhaps incline his head as though listening. I merely mention this in passing. It will be evident that the facts we have been reviewing supply the strongest possible evidence that it is by a process which I have called mental-reflex errors of the general classes noticed become habitual. They begin in the sphere of mental operations by false conceptions and defects in thought-processes, and being reflected in on the brain, they give rise to new combinations, such as those which form the physical basis of memory. They are repeated, and the automatic apparatus develops a special nervous facility for their commission. They then become "habitual" or, which is the same thing, automatic, and beyond the control of the will, which can at best only keep a watchful eye on the way the lesser faculty performs its functions, and correct its mistakes.

Few, if any, of the considerations now submitted can claim attention on the score of novelty, but I have ventured to throw them together in the hope of attracting the notice of practitioners—and especially of those engaged in the continuous supervision of families—with the important stages of mental development under their observation, and the opportunity of suggesting corrections and amendments at their command. Nothing is *done*, either in act or thought, without impressing the brain and nervous centres with a certain facility for repeating the exercise. It is impossible, therefore, to exaggerate the importance of avoiding everything that is likely to lay the foundation of a bad habit, of mind or body. When a habit is once formed it can seldom be remedied directly by the will. The cure must be effected by destroying or superseding the vicious automatic combination which has been created reflexly. This can be most readily and effectually accomplished by some process of training which will create a new automatic combination incompatible with, and destructive of, that we desire to abrogate. It is, in fact, useless to try to antagonise the habit directly; it must be supplanted by another. The utmost that can be achieved by interference with drugs is to interrupt a morbid train of activities by throwing the nerve-centres into a state of repose, restoring their tone when debilitated, or preventing the irregular and explosive discharge of energy. Lastly, I venture to urge a more constant professional recognition that habit plays an important part in the formulation, if not also in the causation, of disease. Types of nerve, brain, and general disease are often developed by habit, and the mind is the prime mover in producing the conformity. The phenomenon is a mental reflex. It originates in the mind, reacts on the brain, and reappears in the rank of mental activities as a reflex. Even if mind be simply a form of cerebral energy—which I see many grave scientific reasons to disbelieve,—there must be an outer zone, of functional intellectual energies, in and from which all ideo-motor forces act and react. Morbid manifestations of habit require to be treated on the principles I have tried to indicate rather than to explain.

London.

ANTISEPTIC OSTEOTOMY FOR GENU VALGUM, GENU VARUM, AND OTHER OSSEOUS DEFORMITIES.

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As, in some instances, figures convey to the mind a much more distinct impression, and engender a more vivid idea, than can be produced by written description, it is thought expedient to present several varieties of osseous deformity which have been operated on by me, and, for comparison along with these, the results in several instances. It was considered that photography was the most exact method of securing the primary figure, and the photographs were placed in the hands of an accurate engraver (Mr. Stephen Miller, of Glasgow) for transference to wood. In one or two instances, where the deformity was very bad, the persons could not stand to have their photographs taken; and as sitting or lying was not suitable, the idea of figuring them was renounced. In these cases, as well as in the others, accurate measurements were taken from fixed points. The woodcuts and the accompanying description form an appendix to the paper on osteotomy published by me in THE LANCET of Dec. 28th, 1878.

Fig. 1 represents a case of knock-knee, which, though well marked, may be regarded as a medium instance; the deformity often being greater. In some cases the distance between the two internal malleoli, taken as the patients lay on their backs in bed, while their knees touched, measured eighteen inches, and in two cases twenty inches. The latter were unable to walk prior to the operation, whereas after the operation they were able to go freely about, one such person (the first operated on) walking a distance of fourteen miles in one day without fatigue. In one instance of knock-knee of the right leg and bow-leg of the left, the internal malleolus of the right leg was eleven and three-quarter inches to the outside of a perpendicular drawn in a line with the body and at the level of the internal condyle. It will be seen that if this had been a case of double knock-knee, of equal severity in both limbs, the distance between the two internal malleoli would have been twenty-three inches and a half.

FIG. 1.

FIG. 2.

Fig. 2 shows a case of double knock-knee of more pronounced character. The figure represents the only position in which the person could stand easily. The left knee overlaps the other, the right knee being seen from behind and to the left side of the left. The measurement between the two

malleoli, taken as above, was fifteen inches. In walking, the one limb had to circumnavigate the other to a very considerable extent.

Fig. 3 is a case of knock-knee of the right limb and bow-leg of the left. This has happened in my experience more often in girls than in boys, but I am inclined to attribute it to fortuitous circumstances connected with the cases which have come before me hitherto, and do not believe that it will be found a general rule. In such cases two osteotomies are performed at the same time, both limbs being straightened. The knock-knee is rectified by the femoral incision, and the bow-leg by the division of the tibia at the spine and the simple fracture of the fibula. In some instances, in young persons, a green-stick fracture of the fibula ensues.

FIG. 3.

FIG. 4.

Fig. 4 is one of the results of operation by the femoral incision for knock-knee. It is an average result: some are better, others not quite so good, though all are straight. It would be useless repetition to represent here all those which have been photographed, as they represent merely a series of straight limbs. The movement of the knee-joints is very free. One lad showed to me his power of flexion by dropping on his knees and rising without assistance, as his occupation required; and another could, by a quick movement, touch the gluteal region with his heel.

Fig. 5 is the result of a case somewhat similar to that represented in Fig. 3, only in this instance the deformity in both limbs was more marked. The right limb was the one which was bowed outwards, and the left the knock-knee. When bow-leg and knock-knee occur in the same individual the angle of the in-knee is often greater than what is found when both limbs are knocked.

FIG. 5.

FIG. 6.

Fig. 6 shows the result of femoral incision in a case of single knock-knee, the left limb being the one which was affected. In such cases there is generally a slight affection of the neighbouring limb (most often bent outwards), but in this instance the right limb was well formed. This occasioned the deformity in the left limb to be all the more marked. There was a compensatory curve in the trunk, and she walked with a very considerable halt. When the knees were placed together as she lay in bed on her back, there was a distance of nine inches between the two malleoli.

Fig. 7 is a case of rickety deformity. *a* represents the front view of a right leg which was affected with a tibial curve, the convexity being forward. Several osteotomies were performed at the same time to rectify this, and *b* is the front view of the same leg after the rectification of the curve.

FIG. 7.

FIG. 8.

Fig. 8 is the side view of the same limb; *a*, prior to the operation; *b*, after the operation. The deformity was rectified by a series of simple incisions with graduated chisels, so as to leave V-shaped openings, with the base looking anteriorly. In some other cases of the same kind I removed a surplusage V-shaped portion of the bone from the most convex part, and the result was equally satisfactory. The wound in this latter case was much larger than in the simple incisions.

Fig. 9 is a diagrammatic figure drawn to scale, representing a case (sixteen years of age) of angular anchylosis of the left knee of several years' standing. The tibia was thrown well to the posterior border of the femoral condyles, and these latter structures had the elliptoidal form which they are apt to assume when the pressure of the weight of the body has been long removed from their extremity. In this instance the elongation amounted to fully an inch greater than those of the corresponding limb. When the knees were placed together as the patient stood, the toes of the affected limb were two inches and the heel seven inches from the floor.

FIG. 9

FIG. 10.

Fig. 10 is the result of the above case, the affected limb being brought into a line with the other. Shortening generally occurs in such cases, half an inch to an inch, and sometimes even a little more, but in this instance, and also in one operated on since, there has been no shortening. There is the prominent knee still quite apparent, but otherwise there is no deformity. The wound was over the inner side of the patellar ligament, and the cicatrix now measures a quarter of an inch. Though most of the cases of angular anchylosis of the knee are the sequelæ of diseased conditions, yet the same kind of deformity may result from injury. In one case (patient twenty-six years of age), having a traumatic origin, the limb was straightened by me with a very satisfactory result.

Glasgow.

FURTHER REMARKS ON THE CONTAGIOUSNESS OF YELLOW FEVER.

BY ROBERT LAWSON,
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SINCE the appearance of my remarks on yellow fever, in THE LANCET of 20th July last, several gentlemen have expressed a desire to have some additional illustrations of the dependence of that disease on local causes, and of the insufficiency of importation to give rise to it independent of these. The literature of yellow fever contains many such; but, on this occasion, while I endeavour to meet their wishes, I will confine myself to a few taken from localities I was well acquainted with, and most of which came more or less completely under my own cognisance.

It will be remembered that the crew of H.M.S. *Eclair* contracted yellow fever on the coast of Africa in 1845, and that the inhabitants of Boa Vista, one of the Cape de Verde Islands, where she touched on her way home from Sierra Leone, suffered from the disease subsequently. Sir W. Pym, Superintendent-General of Quarantine, having been informed that three persons had died of yellow fever at Sierra Leone that year, concluded the *Eclair* had been infected there by them, and, in her turn, had communicated the infection to the inhabitants of Boa Vista. At the request of the late Dr. M'William, I investigated this question so far as Sierra Leone was concerned, and found, from both documentary and oral evidence of the most conclusive nature, that three persons had died of yellow fever in Freetown that year from the 16th to the 20th August. One of these was a merchant's clerk, who had been some time in the place; the others arrived from sea in good health on the 28th July and 2nd August, five and ten days respectively after the *Eclair* had left; and, from all I could learn, they seem to have had no communication with each other during their illness. Yellow fever had not been met with in the colony since 1838, and there was no trace of importation in 1845. The *Eclair* had been watching the Seabar, one of the mouths of the Sherboro River, south of Sierra Leone, since the beginning of March. While here her bilge was most offensive, and at a later date a thick layer of foul mud was found in it. Her boats were frequently sent up the river, and several of their crews were attacked with the ordinary remittent fever; but, while here, one of her stokers, who had not been out of the ship since she left Freetown at the end of February, contracted fever of a virulent description on the 22nd May, which proved fatal, and which, so far as the rather limited detail of the symptoms enables us to judge, seems to have been yellow fever. Two other cases occurred on the 4th and 5th of June, in men who had been away in a boat from the 22nd to 28th May, which also resembled yellow fever, but as the men had been exposed in the ship to the same causes as the stoker, as well as to those of fever existing at the time in the river, it is doubtful to which they should be referred. It was not until after the 23rd July, however, when the *Eclair* finally left Sierra Leone, that the disease became frequent among her crew. The colony was healthy in 1846, and no trace of yellow fever was observed; but in 1847 there was a severe outbreak, which carried off an eighth of the white residents in Freetown. The first person attacked in this instance was Mr. Hayward, the Colonial Surveyor, who arrived from England in the beginning of February, in the same vessel in which I went out; he became sick the 28th June, was yellow and had black vomit, and died on the 3rd July. There was no evidence of importation at this time or subsequently, and of the cases which followed none had been in communication with Mr. Hayward after he was attacked, and in several of them no communication could be made out with any previous case. The last attack in 1847 was on Nov. 19th, and there was a single case in March, 1848, from which date to the end of 1851, while I remained at Sierra Leone, I neither met with nor heard of any instance of yellow fever. Here, then, after an absence of seven years, we find yellow fever spring up in Freetown and in the *Eclair* within a short period, without any trace of importation; and as the *Eclair* had sailed before the disease assumed a decided character in her, and the cases which occurred on shore did not appear until after she had been gone many days, and then in persons who had had no communication with her crew, the conclusion is inevitable that these two manifestations of the disease were independent of each other, and did not arise from personal communication. The epidemic of 1847, also, appearing as it did after a freedom from the disease of nearly two years, and without any trace of importation, affords another proof of the possibility of yellow fever arising there from causes in operation in the locality at the time, and those experienced in 1823, 1829, and 1837–38 all support the same view, as every attempt to establish importation as the starting-point in them utterly broke down. It must be accepted, then, as a fact, that yellow fever may arise on the coast of Africa from causes in operation in the locality, and the history of the disease there shows that the area over which these are active is sometimes comparatively circumscribed, as in 1845, while at others it is far larger, and may even be experienced on the western coasts of the Atlantic and in the West Indies at the same time, as during 1837–38, 1847, and in other instances. Is this great diffusion of the disease to be explained, as Chisholm and Pym endeavoured to do, by according to Sierra Leone and its neighbourhood the exclusive power of generating yellow fever, and assuming that it was carried elsewhere by man? Or are we to conclude that those factors which come into operation from time to time at Sierra Leone may equally become active elsewhere under suitable conditions, and so lead to a similar result? Clearly the latter view accords best with the facts, and the diffusion by man can only be established in any given instance by the exclusion of the possibility of the operation of local causes, such as gave rise to the disease at Sierra Leone and in the *Eclair*, independent of each other. When the occurrences at Boa Vista subsequent to the departure of the *Eclair* are submitted to this test, the support they are supposed to afford to the contagiousness of yellow fever breaks down.

If from the coast of Africa we proceed to the West Indies, we find many and varied illustrations of the failure of large and frequent importations of yellow fever cases to communicate the disease, while sporadic cases, or even severe outbreaks, occurred at pretty determinate seasons, where local circumstances were favourable. To commence with Barbadoes: the military hospital at St. Ann's is at the south-west part of the island, close to the sea-shore, and elevated above the high watermark about 20 ft. The space within the enclosing wall is nearly rectangular, presenting a front to the sea of 225 ft., and extending backwards to the N.N.E. 450 ft. Along the northern wall the ground is considerably lower than nearer the sea, and the water used to collect there after heavy rain. The sick were accommodated in two buildings near, and parallel to the eastern wall. These are placed end to end, but with a clear space of 50 ft. between them, and each has a ground and upper floor wholly occupied as wards. On the northern and western sides of the enclosure are smaller buildings for the quarters of the hospital sergeants and orderlies, stores, &c., all on the ground or a little raised above it. In March, 1841, the 33rd and 47th Regiments arrived in Barbadoes from the Mediterranean, neither having been in the West Indies for many years previously. Their men consequently had not been exposed to the causes of yellow fever, and, as regards that disease, were wholly unacclimatised. The sick of these regiments were placed in the northmost of the two buildings above mentioned, which is the larger, the 33rd occupying the southern half of both floors, the 47th the northern; and the smaller building was kept for the reception of men of other corps and seamen from the navy, but these were provisioned and provided with attendants by the 33rd. In 1841 there was a severe epidemic of yellow fever in Jamaica and several of the other islands, and the disease prevailed from Guiana to the southern States of America. On May 19th H.M.S. *Hecla*, with a crew of about fifty, arrived at Barbadoes from Jamaica with yellow fever on board, and from May 20th to June 13th thirty-three of them were sent to the military hospital with that disease, of whom ten died. The *Hecla's* bilge was in a foul state at the time, and one of the members of a board of survey sent on board to report on her condition was attacked with yellow fever a few days after, of which he died at the military hospital on the 22nd June. Cases of this disease were sent from different ships, at various times, up to the end of October, in smaller numbers, it is true, but still affording numerous opportunities for being communicated had it possessed this property; yet, though all the cases were treated in the smaller of the

buildings already noticed, and attended by men of the 33rd, not a single case of yellow fever appeared among them or anywhere else in the garrison. Early in October there was heavy rain, and the low ground along the north wall of the enclosure was flooded, and, in consequence of the defective drainage, an extensive pool remained, which gradually diminished, but left a marshy surface nearly the whole length of the wall, far into November. A man named G——, of the 33rd, who had been under treatment on the ground-floor of the larger building for some slight complaint for about a month, was discharged to duty on October 30th, and left the hospital at 5 P.M., for barracks about half a mile off. At half-past ten P.M. he was returned to hospital with fever; he became yellow on Nov. 2nd, had black vomit on the 5th, and ultimately died on the 9th. This was the first case of yellow fever which had occurred among the troops or their families since they landed; the man was not in the same building with the yellow fever cases from the navy, and nothing required his presence there. On the night of Nov. 1st a window on the east side of the ground-floor of the portion of the larger building occupied by the 47th was left open, and the following afternoon two patients who slept one on each side of it felt chilly and out of sorts; each passed a very restless night, and early on the morning of the 3rd both were found in high fever. One became yellow and had black vomit on the 5th, and died early next morning; the other, after an emetic and free purging, recovered. Both these men had been in hospital for a considerable period (the first since Sept. 13th), and had occupied the same beds the whole time; neither had any communication with the wards where the yellow fever cases were treated, though they were on the same floor as G——, of the 33rd, but had no immediate communication with him after his return to hospital with fever. After learning the connexion of the attack in the 47th with the open window, I had all the windows in the north end and east side of the wards shut regularly at sunset, so as to exclude the breeze during the night; and to ensure the attendants coming under the same restriction, all except the sergeant (who was married and had a separate quarter, but who was duly cautioned to close his windows at sunset) were made to sleep in the wards, and thereafter none of the patients in the hospital of the 47th, nor of the attendants, were attacked, and only one other case of yellow fever occurred in the regiment, in a man admitted from barracks on Dec. 13th, and who died on the 18th with black vomit. In the 33rd the same importance was not attached to the exclusion of the night air, and not only were several of the patients affected, of whom at least one died, but the hospital sergeant and five orderlies also died of the disease, as well as fourteen men who were attacked in barracks on or subsequent to November 7th; there were of course many others attacked, but unfortunately I have neither their names nor the dates on which they became sick. A guard of four were mounted daily at the hospital, the guard-room being at the south-east corner of the enclosure, and the sentry's post at the gate in the south wall, both of them on one side, but out of the usual course of the wind passing over the marshy ground already noticed. The guards here were taken on alternate days by the 33rd and 47th, and if the case admitted on Dec. 13th be excepted (as it was not ascertained where the disease was contracted), no man of the 47th on this guard was attacked.

(To be concluded.)

ON ELASTIC PRESSURE IN THE TREATMENT OF INFLAMMATION OF THE JOINTS.

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ASSISTANT-SURGEON AND LECTURER ON SURGERY AT THE LIVERPOOL ROYAL INFIRMARY AND SCHOOL OF MEDICINE.

MY reply of Dec. 7th, 1878, to Mr. Keetley's paper of Nov. 23rd, on the above subject, written with a studious brevity, was rather an assertion of my own conclusions and personal impressions than an attempt at the more lengthy process of their detailed justification. This attempt, however, I feel now compelled to make, and I have the less hesitation in doing so as I see in his paper a disposition to perpetuate views which are of a somewhat representative character, which really affect the whole subject of inflammation, and, consequently, its surgical treatment, but which I regard as no less misleading in practice than erroneous in principle. Mr. Keetley is kind enough to reciprocate the feeling of personal goodwill, which I hope there may be no occasion to disturb. A want of clearness in my last sentence, quoted in his answer of March 1st, 1879, has led him to misinterpret its meaning; but as the sentence is quite unimportant I will dismiss it, and go on to the main points.

Whether Mr. Keetley estimates correctly or not the prevalence of a faith in, or of the use of, Scott's dressing, I cannot really say, but I am less concerned with "the belief ..... entertained ..... by almost every surgeon in the country" than with a desire to learn and to prove what are the realities of our art, as contrasted with the incoherent language and shallow inconsistencies by which it is too often defaced. I entertain no "theoretical" opposition to pressure, in the sense in which, if I rightly understand Mr. Keetley, it would be more correctly termed "hypothetical." I prefer to recognise as theory that explanation alone which is ascertained to be true. Theoretical considerations are, in this sense, the verbal expression and interpretation of facts, and difficult if at all to be kept out of an argument. Any reliance, however, on purely "hypothetical" grounds I agree with Mr. Keetley in deprecating, and am anxious to avoid. *Bonâ fide* compression I oppose, for practical reasons, derived from practical experience, tempered, I hope, with reflection, and not unmindful of the opinion of others, when veraciously given and free from obvious fallacy.

The view epitomised in my letter is based upon clinical knowledge, which has taught me that the repeated pressure inseparable from flexion in the use of a knee-joint, the subject of hydrarthrosis, is a frequent, and often the only, obstacle to speedy recovery. I availed myself of Mr. Lister's exposition of the perpetuation of patellar bursitis under tension, and the relief of it by antiseptic evacuation and drainage, as a collateral argument against the perpetuation or increase of this fluid tension in a joint. It must be admitted that concentric compression from without increases the fluid tension within a sac containing fluid. Whether or not the absorption of that fluid be thereby promoted is another matter. If the indiscriminate use of such compression were followed, either invariably or even generally, by the disappearance of the fluid, a much stronger argument in its favour would be established on this ground alone, quite apart from any other explanation, such as the arrest of flexion, and the consequent removal of a form of repeated pressure and friction. Even admitting, for the sake of argument, such an invariable sequence, in the hands of one surgeon, or of more, we have to explain the recoveries without it in the hands of others.

Synovitis of the knee often gets well after the application of poultices, fomentations, iodine painting, various solutions on rags, without any mechanical appliance, and even when totally untended and unprotected from use. Who is to tell beforehand what case is capable of spontaneous recovery? What we want to know is the treatment under which no case shall get worse, or for mere want of which any case may fail to get well, and the unalterable laws governing the use of treatment which may admit of variations in detail while attaining its invariable purpose.

I will now proceed to the further consideration of synovitis of the knee, patellar bursitis, and also boil, abscess, or other inflammation, cutaneous or subcutaneous, in the same anatomical neighbourhood, having found that similar treatment is, in principle and often in detail, appropriate to all, and that each condition in its own way gives evidence of the part played by rest in the process of inflammatory resolution. Any one of these affections can be treated, as a rule, without laying the patient up, and is, if painful, immediately relieved as soon as the knee is fixed in the straight position by a back splint, or by abundance of plasters enveloping the joint and continued a moderate distance above and below, or by a combination of both. A continuance of this treatment, not tightly applied, but so as to prevent or greatly to limit flexion, is not only comfortably borne by patients going about, but is generally followed by complete resolution. I cannot attribute its good effect to any compression of the plaster; witness the cases where the affected part was uncovered from first to last, a practice which I invariably adopted formerly. In each case there is an inflammatory condition which with each flexion of the knee-joint

is either compressed (as in the case of synovitis, bursitis, or abscess), or pulled upon (as in boil, wound, &c.) The mere cessation of this movement not only allows the patient to get about painlessly within certain limits, but, by ceasing to aggravate, permits the resolution of, the inflammation. The abscess may, of course, require incision or aspiration, and the same is true of the serous fluids; in fact, much time is often saved in synovitis, and always in bursitis, by aspirating at once *after fixing the joint;* while in some cases it is indispensable. But I am quite prepared to admit that some of my cases could possibly have got well without my interference; so with anybody else, Mr. Keetley included, as, for example, most probably in the case referred to at the end of his letter on March 1st. The obvious existence of such cases is one source of the prevailing fallacies which attribute recovery to some one or more useless, but harmless, devices, that hopelessly fail in cases of more importance, such as the obstinately chronic or painfully acute. The essentials of treatment I have learnt from the important cases, which respond with great precision to its proper employment. The same means, though less imperative, are always advantageous, even in minor instances. These minor instances, however, are those which sometimes emerge little or none the worse, or, at any rate, eventually get well, from the application of other modes of treatment which I most unhesitatingly condemn after abundant knowledge of their ruinous effects upon severe cases, and the undoubted delay they make in the recovery of the mild. Such are blistering, firing, so-called passive motion, and, equally, the too early recommendation of voluntary motion, each of which is an importation of fresh disaster into parts which one would think deserved a gentler handling, by reason of their already known infirmity. Into this injurious category the hydraulic compression of Mr. Keetley must often enter, can, in fact, only accidentally fail to enter, by the very thoroughness with which it effects compression, and so inflicts upon the joint an injury which it may, indeed, fortuitously survive, but to which it should in reason never be subjected. The very pain produced is faithfully recorded by that gentleman, in the only two cases which he reports, and is such as I should deem evidence rather of injury, however temporary, than of relief. As he truly supposes, such pain would not have occurred under a sufficiently slack application of his bag and bandage, for which he will, I trust, forgive me for recommending a "bag and baggage" policy.

To return to the treatment I am defending. We have here a relief to inflammatory tension, obtained in two different ways: first, by the arrest of movement and the repeated slight compression, friction, or tension which that act inflicts; secondly, by the withdrawal of the fluid when it exists. Either may succeed alone, but either may singly prove insufficient; whereas both combined are certain. For example, a woman applied to me with a small effusion in each bursa patellæ. Each was aspirated three or four times at suitable intervals of a few days, the joints being unconfined. Re-accumulation, however, occurred as often. Then one bursa was aspirated, and the joint restrained with plaster, the other limb being used as before, and remaining *in statu quo*. No further accumulation resulted, the single aspiration sufficed, and the joint was set at liberty after a week or two. The same was then repeated with the other knee, with the same result. I have subcutaneously ruptured the swollen bursa patellæ, and applied a back splint; also punctured, drained, and dressed in Mr. Lister's fashion, other bursal cases, and applied a back splint; and as for synovitis of the knee, fixed with back splint or plasters, or both, aspirated once or oftener, or not at all, in all cases allowing the patient to walk, over and over again repeatedly, without a single failure or mishap, often enough to be quite certain of what I am saying.

It may be true enough that joints plastered in Scott's fashion may succeed in getting well, or may even derive actual benefit from the plan. The *hoc* is there, and I will admit the *post*, but I draw the line at *propter*. The apparatus is a splint, imperfect at the best, but which may suffice, particularly if, as it must often have been, not tightly applied, or if speedily slackened, as it would become in œdematous cases. While intended to compress, it does good in a proportion inverse to the attainment of its immediate object, in consequence of its accidental attainment of another. In mild and unimportant cases be it remembered, for in advanced general arthritis it may be disastrous or, at best, futile.

The strapping of ulcerated legs is undoubtedly of value, whether in the mode practised by Baynton, or in its extended modification, and possible improvement, by John Scott. Is it because of compression, either of the ulcer or of the leg in general, when œdematous or congested? If so, an indolent and already ill-nourished sore is rendered still further anæmic, and an apparent contradiction afforded of the well-known fact that healing proceeds more rapidly where the blood and other juices are increased, as in paraplegic bedsores, and other cases of accident or experiment illustrating vaso-motor paralysis. But the ulcer improves nevertheless, even in legs not œdematous or congested by varicose veins. Is it not rather by the support and fixation of the surrounding healthy skin, and the consequent immunity of the ulcer from incessant stretching and sliding, that the benefit results? So with carbuncle, so with boil, so with sprains. The pressure applied with plasters inflicts a momentary, perhaps a more permanent, pang or even injury, but the seat of disease and the surrounding healthy skin are stiffened, and move only *en masse*, thus neutralising the constant pain due to the slightest local movements. I do not therefore join in the indiscriminate welcome which some accord to Martin's elastic bandage, which is a sensational revival, in a decidedly deteriorated form, of a known and well-approved device that has never yet died out, and consequently not yet stood in need of rediscovery.

So much for the mechanical item; now for the local applications. Any and every form of joint disease can be got well (if got well at all) without them, as I have abundantly satisfied myself, and can assure others. They are of two kinds: the positively injurious and the harmless. The former I have already alluded to, and include every form of effective irritation. The latter are a host, from which I would by no means exclude the pharmaceutical ingredients of Scott's dressing, their filthy character notwithstanding. One cannot legitimately attach any more therapeutic importance to the use of mercurialised, iodised, or improvised applications, *of a non-irritating character*, to inflamed knees, than to any supposed local action of the sticky material in the various plasters, or even of the paper, wood, or iron in the splint. But allowances must, of course, be made for a certain amount of credulity, even among ourselves, to the perfectly free exercise of which I prefer to extend the utmost indulgence, particularly in the use of materials which are, at the worst, but harmless incantations, and which are often not without their psychological uses as *placebos*.

Finally, I am too conscious that my language falls far short of what the interest and importance of the subject demand, though, if it succeed in conveying my meaning, it will answer my purpose.

Liverpool.

ON THE TREATMENT OF DIPHTHERIA.

BY C. DUDLEY KINGSFORD, M.D.

IN THE LANCET of November 6th, 1858, will be found a letter from me upon Diphtheria, in which I recommended the exhibition of perchloride of iron and chlorate of potash as the treatment most to be relied upon, and drew the attention of the profession to the analogy which exists between diphtheria and asthenic erysipelas of the head and face, in the treatment of which latter complaint large doses of perchloride of iron had proved most beneficial. I was then unaware that Dr. Heslop, of Birmingham, had published similar views. That the same plan of treating diphtheria had been arrived at by independent observers strengthened my belief in its correctness; nor has the subsequent experience of twenty years caused any alteration in my opinion, and consequently I have been much gratified by the testimony of so many practitioners to the value of iron in this disease.

Since 1858 very many cases of diphtheria of varying type, some of a most malignant form, have occurred in my practice, and by adhering to the plan of treatment advocated the results have been most favourable. For several years I have discontinued to apply nitrate of silver and other topical remedies, and only made use of a weak gargle of Condy's fluid; but within the last twelve months I have painted the membranous deposits with lactic acid, one part

in three of water, and in severe cases an efficient nurse has been instructed to do this every four hours. Quite lately, too, at the suggestion of Mr. D. de Berdt Hovell, I have brushed the throat twice a day with perchloride of iron and glycerine, in equal proportion, which acts by corroding, as it were, the membrane, causing it to pucker, and to be thrown off apparently earlier than would otherwise happen, also—no small matter—by entirely removing all fetor. But as the chief object of this communication is to put prominently forward the internal treatment, it may not be out of place to detail the plan I usually adopt. For an adult I order tincture of the perchloride of iron forty to sixty minims, chlorate of potash ten grains, glycerine one drachm, water one ounce, to be given every two or three hours during the day and night; and as the case progresses towards recovery I prefer to increase the interval rather than to diminish the dose. This treatment should be strictly carried out from the moment the disease is recognised, so necessary is it to counteract the poison circulating in the system. An aperient, if indicated, may be given early, but not an emetic—at least I have never seen any benefit effected by one. In fatal cases I have invariably had to regret that larger doses of iron had not been given from the commencement of the attack. Nourishment, such as milk, beef-tea, eggs, &c., must be given every two or three hours throughout the day and night, and so great is the tendency to exhaustion that there should never be any hesitation in having the patient aroused for food and medicine. With regard to stimulants, from the very circumstance of their being almost always required, some care should be shown in the choice and mode of administration; indeed, from want of judgment in this respect, I have seen very baneful results. I find, as a rule, an ounce and a half of port wine given every three or four hours better borne and more sustaining than frequent doses of brandy, and far less liable to excite the sensorium; very rarely, if ever, is it wise to have recourse to more than one form of stimulant. The indiscriminate use of various kinds of wine and different sorts of spirits is to be especially deprecated. A constant supply of steam generated in the room, but not too near the bed, is a desideratum in the management of all cases of diphtheria, and becomes absolutely necessary whenever the air-passages are involved.

When the larynx is affected there is grave cause for anxiety; still even here I would advise steady perseverance in the iron treatment, for from long experience I have learnt that as when pneumonia occurs in the course of fever we dare not relax in our general treatment of the fever, so also in these laryngeal attacks we must remember that we are engaged in combating another stage only of the same disease (diphtheria), but which from its situation is now threatening to close the door against the ingress and egress of the very breath of life. In these cases I have frequently been induced to try special treatment, but have always had to return to the iron and potash mixture, and to regret the time and ground lost by the deviation. In some cases also I have performed, and in others assisted at, the operation of tracheotomy, but not with favourable results; for although relief has been afforded to the most urgent symptoms, yet death from syncope or apnœa has too often happened within two or three days after the operation, and this fatality, I believe, has been in consequence of the operation having been undertaken only when the last stage of the illness had set in. Perhaps I have been loth to advise tracheotomy at the commencement of the croupy seizure because I have seen very many of the most unpromising cases recover under the iron treatment; indeed, patients when apparently moribund will not rarely cough up pieces of membrane, and so free the air-passages from the obstruction which is threatening to become speedily fatal. When diphtheria supervenes upon measles, the prognosis is most unfavourable, for the air-passages are already in a state of inflammation, and there is consequently the greatest tendency for the disease to spread rapidly from the larynx to the trachea and bronchi, from which circumstance, too, tracheotomy, if not actually useless, affords only the faintest chance of success. All our energies must, therefore, be directed to sustaining the vital powers; and, in addition to the iron and potash mixture, small doses of Dover's powder will be found to do good in allaying irritation, and in relaxing the mucous membrane. The submaxillary glands and the lymphatic glands of the neck are often swollen and painful, for which I have found the best treatment is to envelop the neck in cotton wool, which gives great comfort to the sufferer, and reduces the chance of subsequent suppuration. Albuminuria is common in severe diphtheria, but need hardly give rise to anxiety, for it usually disappears *pari passu* with convalescence, whilst in the fatal cases death occurs too early for it to become an important factor. A not unfrequent sequela is paralysis or paresis, which may affect different parts, but most often commences in the velum palati and muscles of deglutition, when the patient's attention is first attracted by the returning of fluid through the nostrils during the act of swallowing. The forms of paralysis are various; the milder, in which category I would enumerate impairment of vision from loss of accommodation, aphonia, and deafness, are recovered from as a rule in a few weeks under nervine tonics and change of air. I remember the hearing being quickly restored by galvanism in one case of deafness which had resisted all other treatment. Paralysis of the extremities less frequently occurs, and, according to my experience, is of much longer duration.

Whether diphtheria be infectious or not is a moot point; for my own part, I am inclined to think it is not, for in nearly every outbreak I have been enabled sooner or later to trace the source of poison to some defect in the dwelling or to some definite cause to which the patient has been exposed out of doors, and I have no recollection of ever seeing the disease conveyed to the nurses or immediate attendants. I have, it is true, heard of such instances, but they have not come under my own observation.

Upper Clapton.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum propriis collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

CASES OF OPERATION FOR NARROW STRICTURE WHERE THE AFTER-RESULT HAS BEEN NOTED.

(Under the care of Mr. BERKELEY HILL.)

THE subjoined completes a series of internal urethrotomies performed by Mr. Hill at the above-named hospital during the year 1875. The report was commenced last week.

CASE 6. *Stricture admitting No. ½ catheter; internal urethrotomy.*—W. B——, aged thirty-five, hawker; admitted June 2nd. Had gonorrhœa seven years ago, and again four years ago. In the first attack he was unable to pass urine. Had had No 8 English catheter passed for the last two or three years about every six months.

On June 4th internal urethrotomy by the wedge-incisor was performed. The stricture was five inches from the meatus, and admitted only No. 2 French (½ English) catheter. No. 26 F. (15 E.) sound was passed into the bladder, and No. 22 F. flexible catheter tied in. On the 6th No. 23 F. (13 E.) silver catheter was introduced. The urethra smarted a little on passing water for the first time after the operation. On the 7th he was discharged to be an out-patient.

A month later he attended the hospital, and passed No. 23 F. (13 E.) easily. Ordered to pass the bougie weekly.

CASE 7. *Traumatic stricture with much induration, lasting twelve years; external division; relief for three years, then slow contraction.*—P. S——, aged forty-seven, was admitted June 12th. Had had gonorrhœa twice. Twelve years ago, while riding in South Africa, he was thrown forward on the pommel of his saddle, and received a severe blow on the perineum. The next day his urine, which was very bloody, passed only in drops. He lay in bed some weeks, got better, and could pass water easily. For the past five years he had had constant trouble with his urine, sometimes almost complete stoppage. Had had many instruments passed by different surgeons, but for two years no instrument had entered the bladder. Had come to England

for treatment. Had been in Guy's and St. Bartholomew's Hospitals and under private medical attendance. He was in good general health. Passed urine every two hours; this came mostly in drops, with now and then a fine stream. Urine acid; some muco-pus. No scar in the perineum. Penis 3¾ in. in circumference. The urethra admitted No. 32 F. (20 E.) sound easily for 4½ in., at which place the stricture began.

On six different afternoons after admission, vain attempts were made to introduce an instrument to the bladder. On the 14th July, chloroform having been given, No. 8 F. (2 E.) silver catheter was passed and tied in. Three days later urine flowed freely; the silver catheter was withdrawn, and No. 9 F. (3 E.) flexible was passed and tied in. On the 20th, catheter withdrawn under ether, and Syme's grooved-shouldered staff passed to the bladder. After the stricture had been divided from without, No. 32 F. sound passed easily into the bladder; No. 26 flexible catheter was tied in. On the 22nd, catheter was removed. A slight rigor occurred (temperature 103° F.) in the afternoon, half an hour after passing urine. On the 25th No. 26 was passed; and on August 15th No. 25 was passed. On the 26th the wound was not quite healed, and patient drew off the urine by No. 24 flexible catheter. On Oct. 7th he called, in excellent health. Passed No. 24 bougie once a week. Going back to the Cape.

In May, 1878, he wrote from the Cape, saying that the stricture was beginning to contract; No. 20 was now tight.

CASE 8. *Stricture for twenty years, very slight; incised two and a half years later; in good health.*—C. W——, age sixty, admitted July 19th. Thirty years ago had gonorrhœa. Ten years afterwards he found difficulty in passing his water. Had No. 8 catheter passed. He got well for three years, when he again experienced the same difficulty.

On July 20th, No. 23 F. passed easily for four inches and a quarter. Mr. Hill passed a very fine bougie, No. 1 F. (¼ E.), into the bladder, and a No. 2 F. catheter. They were then withdrawn. Next day the patient was taken into the operating theatre and etherised. After a rat-tailed guide bougie had been passed, No. 2 F. (½ E.), the split sound was screwed to its end and passed into the bladder. The stricture was cut, and No. 31 F. sound passed into the bladder; No. 26 F. flexible catheter was tied in. In the night had a rigor; temperature 103° F. On the 23rd No. 23 F. was passed without pain, and water was withdrawn. On the 26th No. 25 F. was passed. Patient himself passed No. 23 F. On August 21st he was discharged with No. 26 F. sound, having instructions to pass it every other day.

On Dec. 31st, 1877, he wrote stating that he passed No. 26 every fortnight. Was well in all respects.

CASE 9. *Multiple stricture; internal division.*—R. A——, aged forty-four, labourer, was admitted July 27th. There was one stricture half an inch from the meatus, another at three and a half inches. He complained of great pain every time he made water, which was every ten minutes.

On August 2nd the stricture near meatus, No. 18 F. (9 E.) was cut with Otis's meatotome; that at three and a half inches, No. 11 F. (4 E.), by the dilating urethrotome, and a No. 28 F. sound was passed, and a catheter tied in. The catheter was taken out on August 3rd. On the following day Nos. 19, 20, and 22 F. sounds were passed. On the 6th there was no pain in passing water; 22 F. was introduced easily. On the 7th the patient was discharged, able to pass No. 24 F. flexible sound himself.

CASE 10. *Single stricture; internal division.*—W. H——, aged fifty, admitted August 9th. Had had gonorrhœa thirty years before. Had not a stoppage of water, but the stream had got much smaller. Micturition was painful.

On the 12th a stricture two inches and a half from the meatus admitted No. 11 F. (5 E.) It was divided by the dilating urethrotome to the full size (No. 30 F.), and then a lithotomy tube the size of No. 30 F. was tied in. On the 13th patient had a rigor; temperature 102°. Lithotomy tube taken out. On the 15th he had another rigor after passing urine in the afternoon; temperature 102·4°. On the 16th, temperature, 11 A.M., 99°. No pain in passing water; no blood. On the 18th the temperature was 98·8°. No. 25 F. passed the bulb.

21st.—To be discharged and attend weekly to have No. 26 passed to bulb.

Sept. 25th.—Has attended several times. No. 23 passed easily. A bougie (No. 23) ordered for him.

CASE 11. *Meatus-stricture; incision; No. 30 passed easily.*—M. M——, aged twenty-four, was admitted on August 12th. Two years before he had catheters passed, at first No. 6, and afterwards smaller ones. On August 12th the stricture, being only half an inch from the meatus, was cut by Otis's meatotome, and No. 30 F. sound was passed. As there was free bleeding, a lithotomy tube four inches long, equal to No. 30 in size, was tied in for twenty-four hours. On the 14th No. 22 F. (12 E.) was passed, and on the 15th Nos. 25 and 30 F. were easily passed. On the 19th No. 30 F. was passed; half an inch from meatus the urethra was sore, and bled a little. On the 21st No. 30 was passed. The patient discharged on the 23rd, able to pass No. 30 himself.

CASE 12. *Stricture eleven years; internal division; two years and a half later in good health.*—A. A——, aged thirty-seven, was admitted on Sept. 21st. Had had gonorrhœa fourteen years before; this terminated in gleet. Three years after this had occasional attacks of retention. There was a stricture at five inches. No. 8 F. was tied in.

On the 29th the patient was etherised, and the fine guide bougie was introduced, the expanding urethrotome screwed on to the guide, and passed down. The stricture was cut to No. 25 F. No. 22 F. flexible catheter was tied in, and Otis's india-rubber refrigerative coil was applied. On Sept. 30th the catheter was removed. On Oct. 1st had a rigor; temperature 102°. On the 3rd, after passing urine, had a continuous rigor; temperature 103·8°. On the 11th No. 25 F. was passed. On the 13th he was discharged cured; could pass No. 25 F. flexible bougie himself.

On March 5th, 1878, he called at the hospital. He had not passed an instrument for several months; some time last summer. No. 23 entered the bladder easily.

CASE 13. *Two strictures, one at meatus, one lower; internal division.*—M——, aged forty-six, was admitted Oct. 5th. About sixteen years before patient had gonorrhœa, and for three years after he suffered from a gleety discharge.

On the 6th two strictures were found half an inch and one inch from the meatus. The first allowed 18 F. to pass, the second 15 F. (6 E.) The meatus stricture was cut to 25 F. by the meatotome, the second to the same size by the dilating urethrotome. No. 25 F. sound was passed. On the 9th No. 23 F. (No. 12 E.) catheter was passed, and on the 11th No. 10 E. bougie. On the 13th No. 24 F. (14 E.) was passed by patient. Discharged.

On Dec. 7th, 1878, patient called at the hospital. No. 24 F. was passed to the bulb.

CASE 14. *Tight stricture; internal division; three and a half years later in good health.*—J. S——, aged thirty, was admitted Dec. 3rd. Eight years before had had gonorrhœa, which left a gleet. Stricture was divided three years ago, and he was supplied with No. 19 bougie (10 E.)

On Dec. 8th two strictures were found, one, at an inch from the meatus, admitted No. 20; another, at four inches, No. 8 F. (2 E.) easily, but No. 10 F. (3½ E.) was tight. Both strictures were divided, and 28 F. sound was passed, and a catheter was tied in. On the 9th slept well; no rigor. Catheter taken out. An expanding sound was passed into bladder, and was withdrawn easily at the size No. 26. On the 17th there was no pain in passing water. Could hold water for some hours. Discharged; to attend weekly as out-patient, to have No. 27 and No. 28 sizes passed.

On March 4th, 1879, he brought a friend for advice; was himself in good health; passed No. 25 every two months or thereabouts.

ST. BARTHOLOMEW'S HOSPITAL, CHATHAM.

WOUNDS OF ARTERIES.

(Under the care of Mr. NANKIVELL.)

THE following cases of wound of artery were treated at this hospital during 1878.

CASE 1. *Wound of right brachial artery.*—L. F——, a labourer, aged twenty-eight, was taken to the hospital on April 20th, having, an hour previously, thrust his arm through a pane of glass. On admission, a tourniquet was applied; and on removing the handkerchiefs &c. in which the limb was enveloped, a jagged wound was found three inches long, extending semicircularly across the bend of the elbow, dividing the cutaneous veins, biceps muscle, and brachial artery close above its bifurcation. The proximal

ends of the brachial and the radial and ulnar arteries were tied with prepared catgut. The two latter vessels were secured separately, and the small portion of the distal end of the brachial artery which was above the ligatures was cut away. Sutures were inserted, a pad of dry lint was applied to the wound, and a straight back splint to the arm and forearm. The patient made an excellent recovery, and was discharged on May 22nd, with the perfect use of his arm.

CASE 2. *Wound of right ulnar artery.*—J. P——, a farm labourer, wounded his arm with a bill-hook on July 12th. He arrived at the hospital, much collapsed from hæmorrhage, three hours after the injury. A tourniquet was applied and the ulnar artery was found to be divided about the middle of the forearm. The proximal end of the vessel was readily secured, but considerable difficulty was experienced in finding the distal portion. Sutures, a pad of dry lint, and a splint were applied. Free suppuration of the centre of the wound subsequently took place. Discharged cured, Aug. 7th.

CASE 3. *Wound of right ulnar artery.*—On May 15th E. P——, a child, fell on a piece of glass, wounding his right arm. When taken to the hospital he had fainted. A tourniquet was applied, and the ulnar artery was seen to be divided at the bottom of a wound one inch long, and which extended across the front and inner side of the wrist. Both ends were secured with catgut, and a pad and splint applied. The wound was entirely healed in about a fortnight.

CASE 4. *Wound of left arteria radialis indicis.*—R. G—— was engaged on Aug. 4th in opening a ginger-beer bottle, when it exploded and wounded the left hand. On examination at the hospital, the wound was found to be two inches and a half long, completely dividing the web of the thumb. On loosening the tourniquet, there was free hæmorrhage from the branch of the radial artery to the index finger. Both ends were ligatured, and the usual dressings applied. The wound healed slowly by granulation.

CASE 5. *Wound of right radial artery.*—M. B——, aged thirty-two years, was taken to the hospital late at night on Aug. 3rd, having injured her right wrist with some broken glass. The artery was found to be wounded close above the wrist-joint. Both ends were tied, the distal portion being secured with some difficulty. A splint and dry dressings were applied, and the patient was removed to bed. She left the hospital on August 12th, a small superficial ulcer remaining unhealed.

CASE 6. *Wound of superficial palmar arch.*—On Oct. 2nd S. C——, a bargeman, drove a sharp-pointed piece of glass into the palm of his right hand, the wound being situated in the line of the palmar arch. On unscrewing the tourniquet which had been applied immediately after admission, and separating the edges of the wound, arterial blood spurted out freely *per saltum*. The injured vessel, however, could not be seen. A graduated compress of dry lint and a straight splint were applied. No bad symptoms supervened, and on Oct. 19th the patient left the hospital quite well.

CASE 7. *Wound of left radial artery.*—S. R——, a lad, fell with his left arm on a sharp stone on Nov. 21st, producing a triangular shaped lacerated wound of the front of the left wrist, and dividing the radial artery. The same treatment was pursued in this case as in the previous ones, and the wound was entirely healed by Dec. 24th.

CASE 8. *Wound of right dorsal artery of foot; Chopart's amputation.*—S. L——, a labourer, aged fifty-seven years, was admitted to the hospital on Dec. 4th, having wounded the dorsum of his right foot with an axe. It was found that the dorsal artery was divided, and it was also believed that the articulation between the scaphoid and cuneiform bones was opened. Both ends of the wounded vessel were tied, and the usual dressings and splint applied. Free suppuration subsequently took place in the sole of the foot, and dead bone having been detected, Chopart's amputation was performed on Dec. 31st. The patient left the hospital cured on Feb. 25th, 1879.

Remarks by Mr. NANKIVELL.—In treating wounds of large arteries a tourniquet should be at once applied to the limb, and then all handkerchiefs and clots removed. The proximal end of the vessel should be the first portion to be sought for and ligatured. When this has been done the tourniquet may be slackened and the distal end secured in a similar way. In the cases related above no difficulty was ever experienced in finding the proximal portion of a divided vessel; but this was not the case in several instances with the distal end necessitating the loosening of the tourniquet in order that some blood might escape from it, and thus its position be seen. This may be done without fear if the proximal end has been tied first. It should, however, be remembered that the blood coming from the distal end is venous-looking, and does not flow *per saltum*. In some instances it may be necessary to enlarge the wound in the normal course of the vessel in order to find the two ends. In the cases reported above no such proceeding was found to be necessary. All the vessels were ligatured at the wounded part except in Case 6. This is the golden rule, and should invariably be carried out, no matter how much the wound may have to be enlarged in order to do so. In wounds such as occurred in Case 7 a graduated compress will usually arrest the hæmorrhage successfully. It is better to trust to it than to enlarge the wound and search for the injured vessel in so important and vascular a part as the palm of the hand. Carbolised catgut was employed as a ligature in the above cases. No secondary hæmorrhage or troublesome sinuses occurred. Dry dressings and splints were always applied, as they have seemed in similar cases to favour primary union. They should be removed as seldom as possible. Case 8 required subsequent amputation, owing to a tarsal joint having been opened by the injury. These cases are not brought forward with a view of illustrating any new plan of treatment, but to show that if surgeons will adhere to the cardinal principle of tying both ends of a wounded artery at the injured spot they will obtain good results.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

MEMBRANOUS CROUP AND DIPHTHERIA.

THE ordinary meeting of this Society was held on the 22nd inst., Mr. J. E. Erichsen, F.R.S., President, in the chair. The evening was occupied with the adjourned debate on the Report of the Committee appointed to inquire into the Relation of Croup and Diphtheria. It was far more animated than on the first evening, and was again adjourned. The speakers were Dr. Johnson, Mr. Hutchinson, Dr. Squire, Dr. Semple, Dr. Lownds, Sir W. Gull, and Dr. Poore, the most striking fact being, perhaps, Mr. Hutchinson's argument against the specificity of diphtheria, an effectual method for disposing of the question of the specificity of croup.

Dr. G. JOHNSON said that the question of the relationship between membranous croup and diphtheria was a subject in which for a long time he had taken more than ordinary interest. For many years he had been a firm unquestioning believer in the theory that the usual anatomical result of inflammatory croup, especially in children, is the formation of membrane. In this he had followed implicitly the account given by Dr. West in his work on Diseases of Children, an account admirable, as he thought, for its etiology as well as for its morbid anatomy. But his belief in the theory was much shaken by having under his care two cases of unquestionable croup, in which after death no false membrane was found in any part of the air-passages. Much taken aback by this, he set himself to study the whole question. Mr. Ryland mentions the occasional absence of false membrane, and so does Sir T. Watson. A study of that instructive collection of memoirs on diphtheria, translated by Dr. Semple for the New Sydenham Society, seemed to throw a new light upon membranous croup. He there first learnt that French pathologists describe croup as a disease attended with exudation of false membrane, and that it is a form of diphtheria, drawing a marked distinction between this form and "false croup" or stridulous laryngitis. He then referred to Home's (the first Englishman to describe false membrane) work, published in 1765, and to Cheyne's, in 1809, where two distinct diseases seem to have been confounded, those cases which recovered being non-membranous, whilst the fatal cases, in which membrane

was formed, were unquestionably diphtheritic. For although the name diphtheria only dates from Bretonneau, no one doubts that the disease has always existed. It seemed to him also that Dr. West had confounded under "croup" two distinct diseases, the one simple laryngitis, the other diphtheria. After this study he published his belief that most writers had confounded the two diseases, not being aware at the time that eight years before Dr. Hillier had pointed this out in the *Medical Times and Gazette*. Since then others had taken up the same view. Four years ago the publication of a lecture by Sir W. Jenner in THE LANCET, and simultaneously of a paper of his own, led to much discussion, and it was remarkable how great differences of opinion existed. He was much pleased at the decision of the Society to appoint so able a committee, and they were now indebted to that committee for a most valuable analysis of the whole question. The report was, perhaps, more valuable for its questions than for its decisions, and in the main he agreed with Mr. Parker in his criticism upon the report, save that where he thought the committee should have expressed a positive opinion. This, which would be easy for any one observer, would be less so for a committee of many members, each of whom might have individual opinions on the subject. He was surprised to hear Mr. Holmes state that the committee had decided that the two affections were not identical in a positive way by their statement that "croup may be membranous or not membranous, due to diphtheria or not so" (p. 33); for as he (Dr. Johnson) understood it this meant that croup may be membranous and the result of diphtheria, or not membranous and not due to diphtheria. The important question was—is membranous croup a form of diphtheria? The anatomical results of simple catarrhal inflammation of the air-passages are known to everyone; it is a disease met with every day, and in every degree of severity. A membranous exudation has never been found as the result of this—i.e., as produced by cold. There was nothing in common between ordinary bronchitis and plastic bronchitis, the latter not being inflammatory at all, but a condition where material is exuded from the blood into the bronchi. The diphtheritic poison has a tendency to attack abraded cutaneous or mucous surfaces, as a leech-bite or a blistered surface. Trousseau, dealing with the subject of "cutaneous" diphtheria, mentions a case where an abrasion of the foot was inoculated from a case of diphtheria. Patients suffering from scarlet fever or typhoid not unfrequently have the complication of diphtheria, and it is important to bear in mind that in such cases we have instances of two distinct specific diseases attacking the same subject at the same time. A remarkable illustration of this had been told him by Dr. Dewes, of Coventry. Two brothers attacked with scarlet fever were sent away from home—one (A) to the house of a relative, the other (B) to a cottage. The lad B, whilst at the cottage, contracted diphtheria, and being removed to the house where A was staying, the latter was also infected by the diphtheria, which spread to the larynx, and he died. A gentleman living on the borders of Hyde Park had an infant son who was operated on for congenital phimosis. Membrane formed on the wound, and Dr. Johnson surmised that this was due to the insanitary condition of the house; the child was removed to another house, and then recovered. At the same time, two of the servants were taken ill, one with evident diphtheria, and inquiry proved that the drainage was defective. This was remedied. Subsequently another child was born, also with congenital phimosis, which was operated on without any ill result. Now, supposing the first infant had been exposed to the east wind in Hyde Park and got catarrhal laryngitis, the probability would have been very great that he would have been infected by the diphtheritic poison on the abraded surface, and have died of membranous laryngitis—the true cause of which (the insanitary state of the house) being unsuspected. The committee quote similar instances—some given by Dr. Fagge; and the case related in which membrane formed on the air-passages after inhalation of eau de Cologne could hardly be said to be due to the mere contact of this fluid. The remarkable fact in the history of this patient was that the restorative was given her because she was "fainting from pain at stool." She could not have been in good health, and very likely was then suffering from diphtheria. Such cases were quite parallel to one he had many years ago, where a mother attributed the occurrence of small-pox in her child to the effect of a saline draught administered in the pre-eruptive stage. In one of Dr. Fagge's cases a child had burnt its mouth with a hot potato; false membrane extended down the trachea. This could not have been the result of the local injury; it was far more likely to have been due to an infective process. In another case the membrane extended into the bronchi after injury to the pharynx; and, as to the case of "cut-throat," what more likely than that the wound had been inoculated by the diphtheritic poison? One of the cases cited was traced to infection by a tracheotomy-tube. One of the best examples of the formation of membrane by local irritants is that produced by the application of nitrate of silver, and this never spreads beyond the point of application. He would say, then, that as when scarlet fever is complicated with diphtheria there are two distinct diseases, so when diphtheria succeeds injury two distinct agencies are at work. The committee had dwelt upon the differences presented by the purely larngeal cases and those in which exudation was limited to the fauces. In the purely laryngeal the disease appeared to be less infectious, less frequently accompanied by albuminuria, with less glandular swelling and less general depression. These differences might be expected from what we know of the diphtheritic poison. The risk of infection would be in direct proportion to the amount of exudation, and especially to its existence in the fauces, where it was less firmly attached than in the larynix, and, moreover, could readily be coughed out. The albuminuria, like the glandular swelling, probably resulted from the absorption by the lymphatics from the part infected, and was in direct proportion to the extent of surface involved. He held that the amount of exudation was a measure of the severity of the disease, and in proportion to this was the constitutional disturbance great. Dr. Wilks (in p. 51 of the Report) says, "I have seen in the same family instances of the ordinary diphtheritic affection of the throat, and, at the same time, the laryngeal or croupous form. I have seen instances where the affection was confined to the fauces in one member of the family, where it extended to the larynx in another, and where it has commenced in croup in a third, showing how all these affections may be one and the same." He (Dr. Johnson) well remembered how the first two cases of diphtheria he saw occurred in two sisters, one of whom had a patch of exudation on the tonsil, and the other had none on the fauces, but died from membranous croup. Dr. Dickinson quotes a similar case (p. 123 of Report), where a child with membranous croup and follicular tonsillitis, with diphtheria, infected the nurse in attendance on her after tracheotomy. In examining cases of catarrhal inflammation he had often been struck by the fact that where there was no visible inflammation of the soft palate and fauces the lower part of pharynx, epiglottis, and larynx were much inflamed, so that if such were exposed to the diphtheritic poison these regions would be more likely to get affected. He differed from the statement on page 32, that "in the larger number of cases of membranous affection of the larynx the cause is obscure"; and he quoted instances where at first the cause was not obvious, but subsequently became so. A few years ago he saw a case of laryngeal diphtheria with Mr. Patten, of Ealing. The house was remarkably clean, but it was found that in the bath-room adjoining the patient's bedroom the waste-pipe of the bath ran directly into the soil-pipe. Another instance was that of a butler in a house at Queen's-gate. The house seemed perfectly sanitary, but on investigation an untrapped sink-pipe was found in the butler's pantry. Dr. Casey had related to him the following remarkable illustration of this point which occurred in the house of a clergyman near Birmingham. The mother and infant died of diphtheria, the rest of the children being sent away. The drains, being found defective, were put right, and the children brought back to the house, when two of them contracted diphtheria. A disused cesspool was then discovered beneath the floor of the drawing-room! He had no doubt that, as the committee state, diphtheria is less specific than typhoid fever; he thought it often arose *de novo* from bad drainage, &c.; and he related an instance where some cases followed the opening up of a cesspool, the house in which they occurred being situated so that the wind blew the emanations from the cesspool towards it. It was important that the committee found no specific difference, chemical or microscopical, between the membrane found in the pharyngeal and that in the laryngeal cases. Their conclusion on page 32 was (just after the statement that the cause is obscure in the larger number of cases of membranous laryngitis) that "among those in which it (i. e., th

cause) is apparent, common irritation seldom presents itself as the source of the disease, and accidental injury is but very infrequently productive of it. But few cases of undoubted origin from exposure to cold are on record. On the other hand, in a very large number of cases infective or zymotic influence is to be traced." He would go farther than this, and would say that in every case there is an infective or zymotic influence at work. If this be a fact, it was of the utmost importance, not merely as to treatment, but for arresting the spread of the disease.

Mr. HUTCHINSON bore testimony to the great value of the report. He owed some apology to the committee for not having communicated some facts to them; but until the report was issued he was not aware of their importance in bearing on the question taken up by the committee. He regretted that the scope of inquiry originally before the committee was so limited—viz., the identity or not of membranous croup with diphtheria. This limitation excluded the consideration by the committee of a subject which he thought bore largely on the question of the nature of diphtheria, and that was the subject of diphtheritic or pellicular ophthalmia. This was an affection met with in very various degrees of severity, sometimes as a mere film, at other times as a thick pellicle which it was easy to peel off in one layer. In England it was believed to be but rarely contagious. Abroad it was acknowledged to be more severe. One of the worst cases he had seen, in which the eyes were quite fixed, the conjunctiva being covered with a grey coherent membrane, was in a child dying from scarlet fever; and in another case, to which he was called by Mr. Berry, of Pentonville, hearing that the mother had just died from scarlet fever after parturition, he predicted that the ophthalmia would be pellicular. This lent support to the view taken by the committee of the influence of scarlet fever in predisposing to the formation of membrane. In these cases, then, there was no evidence of their being exposed to special diphtheritic poison. Another class of cases, rarely seen in England, were those in which diphtheritic or pellicular inflammation attacks wounds. The first case he saw was in a boy, the son of Dr. Steele, of Reigate, on the wound of a compound fracture of the leg. The lad had had diphtheria nine months before, and he had been carried to a house where diphtheria was present. Since then he had seen this pellicular condition of wounds in hospital practice, chiefly during an epidemic of hospital gangrene some years ago at the London Hospital; and several cases since. These facts had led him to assent to the much-assailed doctrine of Virchow, that "diphtheria should be placed in the same category as hospital gangrene." Passing to the membranous or fibrinous angina of Bretonneau, he would like to ask the committee whether cases of contagious sore-throat, occurring frequently in an epidemic manner, and marked by pellicular patches on the pharynx, but never fatal, were to count as diphtheria or not? It was almost impossible to draw a line of distinction between these cases and those of recognised diphtheria. Some time ago, in a country place with which he was acquainted, where the soil was sandy, and in houses which were wholly free from suspicion of drain-infection, these sore-throats spread from house to house. A great many people had them; some were very ill, but none died. The throat became extremely red, and in all he saw a little pellicle was formed on the fauces. A young surgeon, visiting him at the time, said that the same condition of throat was then prevalent at Reigate, where great difference of opinion existed as to whether the affection was diphtheria or not. The epidemic lasted several months. It was right to add that it began in a village a mile or two away from the houses first attacked, and spread from that as a centre; that the early cases in that village were called diphtheria, three or four of them proving fatal. He could make no distinction between these mild forms of contagious sore-throat and those with which we are familiar under the name of "hospital sore-throat," and he would ask whether they should not all be considered as minimised forms of diphtheria. The question for discussion was partly one of fact and partly one of definition. The committee have adopted a suggestion made by other writers, that it would be desirable to disuse the word "croup." Sir John Cormack prominently states this in heading one of his lectures "Croup—a symptom; diphtheria—a disease." In his own view it would be equally wise to disuse "diphtheria" too, for it had come to be employed in far too limited a sense. If there was any one statement in the report to which he would take exception, it would be the perpetual recurrence of the terms "diphtheritic poison" and "zymotic influence." His own impression was that there was no disease in which membranous inflammation occurred that could be styled "zymotic." All might be explained on the view of a simple inflammation. The only grounds upon which diphtheria was assumed to be a specific fever were these — its contagiousness, the occurrence of albuminuria, the supervention of paralysis, and the peculiar membranous inflammation characterising it. He submitted that many diseases were contagious which were not specific forms, for he drew a strong line between contagious inflammation and a specific fever, a disease in which a special seed may be assumed to grow in the blood. Dr. Johnson had given strong evidence showing that the extent of the blood-poisoning was proportionate to the extent of the local inflammation. Sir W. Jenner had also given similar facts, although they had led him to a different conclusion. Trousseau also strongly insists on this, dwelling on the importance of the early treatment of the sore-throat. The fact of contagion goes for nothing; it occurred in erysipelas and other inflammatory affections arising *de novo;* and he held that any disease capable of arising *de novo* was not a specific fever. The production of membrane on the inflamed surface was a peculiar symptom, but after all it was not one on which the idea that diphtheria was a specific fever could be based. Albuminuria occurs frequently after erysipelas, often after burns (within six or eight hours of the injury), so there was nothing unusual in that. As to the sequence of paralysis, he would submit that we do not know enough of diphtheritic paralysis, regarding which some interesting facts had come under his observation, confirming the opinion that the paralysis bears no relation to the severity of the throat affection. The most common form of paralysis was that affecting the eye muscles; and many cases had come to him in which it was most difficult to get a history of antecedent sore-throat, so slight and trivial had this been; or if there had been sore-throat, the fact that some time elapsed before the paralysis occurred would often prevent the patient being brought to the physician who had treated the throat affection. Child after child had come to him with paralysis of accommodation, and in many of them no history of diphtheria could be obtained, often only of a sore-throat almost disregarded or forgotten. Not long ago a child with this form of paralysis was brought to him from Finchley, and he said that it must have had diphtheria; and inquiring, found that it had had a sore-throat at the same time as its sister and a man in the same house had. The most marked instance he had seen was the case of a gentleman with paralysis of the ciliary muscle in one eye only (the only case which he had met with in which the palsy was not symmetrical). The patient said that he had not had diphtheria, but he had been nursing his child who had the disease; and one day he thought that his throat was going to be sore. Mr. Hutchinson concluded by saying that his chief object in rising was to submit as a definite proposition the queries:—Is there any *bonâ fide* and sound reason for speaking of diphtheria as a specific fever? Is it not much more probable that the diphtheritic false membrane may arise from ordinary causes of inflammation, and that it becomes itself contagious? Diphtheria had no true period of incubation like other fevers, and he believed the recognition of this view would clear away a great deal of obscurity attending the subject. The committee had acted judiciously in giving no positive opinion. It was impossible that they could arrive at one so long as they understood the term diphtheria as implying a specific febrile disease. It was a specialised local inflammation producing various constitutional effects, and not a disease depending on zymosis. When this dogma had been got rid of the facts would be viewed in a clearer light; so long as it was retained they would be confused and obscure.

Dr. SQUIRE did not expect to hear the fact of diphtheria being a specific disease called in question. He had learnt in Trousseau's clinique of the great difference between diphtheria complicated with croup and croup as then understood in England, and since then he had tried to harmonise the French and English views. At the present time it seemed difficult to distinguish croup apart from diphtheria, and the question was whether fatal croup existed independently of diphtheria. The clinical history showed differences between the diseases—not evident pathologically, for in some cases of croup there was but little glandular affection and no paralytic sequelæ. The practical point

was, whether isolation should be resorted to in cases of croup? Only, he would reply, when undoubted evidence of diphtheria could be obtained; that it might be, indeed, only revealed by subsequent paralysis of the ciliary muscle affecting the sight. The mere occurrence of false membrane was indecisive, for he believed that this might be present on the tonsils apart from diphtheria; and might be absent in undoubted cases of that disease. He referred to cases of croup occurring during and after measles; in some of these small spots of pharyngeal exudation could be made out, in others there was no exudation. The report had not sufficiently dwelt on the epidemic character of diphtheria, and its analogy with scarlet fever. When a membrane formed on a wound, it was not logical to suppose that the diphtheria entered at that spot, and it would be as irrational to conclude from that that the disease was local as to argue that small-pox was a local disease from the eruption only. He commented on the fact of the higher rate of mortality from diphtheria in continental towns, as compared with London, a difference attributable to sanitation, and urged that differences in season should have weight in deciding between croup and diphtheria; the former prevailing in the cold winds of spring, the latter being more common in autumn and winter. He did not insist upon croup as an entity, but claimed for both croup and diphtheria a place among zymotic diseases.

(To be continued.)

CLINICAL SOCIETY OF LONDON.

Case of Rare Vaso-motor Disturbance in Leg.—Partial Epilepsy apparently due to Lesion of one of the Vaso-motor Centres of the Brain.—Amputation at the Hip-joint; Iliac Arteries compressed by Lever.

THE ordinary meeting of this Society was held on the 18th inst., the President, Dr. Greenhow, F.R.S. (and subsequently Mr. Hulke), in the chair. Two cases showing evidence of vaso-motor disorder were read by Dr. Sturge, one falling under the class of cases recently described by Dr. Weir Mitchell, and the other being a case of partial epilepsy associated with an extensive "port-wine mark" on one side of the head and face. A case of amputation at the hip-joint, related by Mr. Gould, led to considerable discussion, bearing chiefly upon the use of Davy's lever for compressing the iliac artery through the rectum, and upon the best methods of amputation.

Dr. ALLEN STURGE read notes of a case of Rare Vaso-motor Disturbance in the Leg. The patient, a man aged twenty-nine, began to have attacks of redness and swelling, with a feeling of heat, in the right great toe about four years ago. They came on after he had been standing some time, lasted for two or three hours, but went off more quickly if the foot were kept elevated; they increased in severity and eventually reached the thigh and buttock. Eighteen months after the first onset the burning pain felt when the foot was put to the ground obliged the patient to give up work. The left foot and leg have begun to feel hot during the last six months. The attacks are brought on by hanging the leg down, sitting near the fire, wrapping it up warmly, or by much excitement. When first admitted to the Royal Free Hospital he rarely passed twenty-four hours without an attack. For more than two years the right leg had been wasted. The circumference of the right thigh was one inch and three-quarters less than that of the left; that of the right calf one inch and a quarter less. There was marked increase in the reflex irritability of the muscles. Their electrical reaction was altered; there was great diminution of reaction to both constant and induced currents when the rheophores were applied to the muscles, but when to the nerves both currents produced good reaction. Now in atrophy from disease of the spinal cord there would be loss of reaction to the induced current in both portions, and to the constant current when the rheophores were applied to the nerves, and good, or even increased, action when they were applied to the muscles. The surface temperature, taken by Stewart's surface thermometer, was below 75° (the lowest point in the scale); in the attack it was about 93°, always lower on the dorsum than on the sole. Dr. Sturge remarked that this belonged to a class of cases of which a description was published by Dr. Weir Mitchell in the *American Journal of the Medical Sciences* for July, 1878. Dr. Mitchell had seen five cases, and quoted six from other sources. He states that the disease nearly always occurs in men, following some constitutional disease, or after much walking. It begins usually in the ball of the foot, and gradually extends to the rest of the limb. The cause of the disease described by Dr. Mitchell much resembles that above given. Two of his cases were associated with spinal symptoms, such as weakness of the legs, atrophy of muscles, &c. But Dr. Sturge pointed out that in this case the atrophy was shown by the electrical reaction to depend on a local rather than a spinal cause. He suggested that the disease had been brought on by the prolonged over-excitation of the vaso-motor centre, resulting from long exposure of the feet and legs to wet and cold, and that the conditions were allied to the irregular action excited in other centres from over-work, as in writers' cramp.—Dr. S. MACKENZIE had now under care a similar case. The patient, an engine-driver, had suffered with attacks of pain and heat in the foot, the veins of which swell up, and he is quite exhausted after walking only half an hour. The affection had lasted over two years, and was probably induced by the different temperature to which his extremities were exposed as compared with the rest of the body. At first Dr. Mackenzie thought the case one of disease of the spinal cord, for the muscles were wasted; but there was good tendon-reflex, and at length he concluded it fell under the head of the cases described by Dr. Weir Mitchell. He had no doubt that it frequently occurred, but that its true explanation had hitherto been wanting.—Dr. POORE said that the theory advanced by Dr. Sturge was that the phenomena were due to over-stimulation of vaso-motor nerves, and his comparison of this to the over-stimulation of muscle in writers' cramp was interesting. In writers' cramp and allied disorders it was common to find considerable evidence of vaso-motor disturbance, people with over-fatigued muscles often complaining also of heat and cold in the affected limb. The electrical condition of the muscles was the same in the cases referred to by Dr. Sturge and in the "fatigue diseases," showing a slight diminution in their irritability, whilst the reaction of the nerves was about normal. He asked if there were any hyperæsthesia, nerve-tenderness, or sign of neuritis in Dr. Sturge's cases.—Dr. STURGE, in reply, said Dr. Mackenzie's case fell under another head, amongst the class of cases described by Weir Mitchell, than his own, there being less vascular dilatation. There was no hyperæsthesia or tenderness over the nerves of the limb.

Dr. STURGE also read notes of a case of Partial Epilepsy apparently due to Lesion of one of the Vaso-motor Centres of the Brain. The patient was a child, now seven years of age. The family history was good; no hereditary nervous diseases. There was an extensive mother's mark on the right side of the head and neck, and one patch over the left frontal and temporal region. All the parts affected on the right side were larger than the opposite. The right eye was affected; and he read notes taken by Mr. Nettleship on the condition of this eye, from which it appeared that the palpebral fissure and the pupil on this side were larger than on the other, and the sclerotic more vascular—a state of sclero-nævus. This eye was myopic, probably because of its increased size, the lens presumably being adapted for a smaller eye; the choroid and optic nerve were redder than on the other side. The epilepsy began by twitching, lasting for ten or twelve minutes, at first confined to the left side. Several such fits occurred every day, but there was at this time no loss of consciousness. Gradually the fits spread to the other side, and in eighteen months or two years the child began to lose consciousness after the attacks. The fit began with a peculiar sensation in the left palm, followed by convulsions, which soon became general. The left side remained weaker than the other. This state of things was considerably improved by bromide of potassium. In order to explain his theory about this case, Dr. Sturge gave a summary of his views as to the mechanism of an epileptic convulsion, and concluded that in this case the epilepsy proceeded from and depended upon a condition of the right hemisphere comparable to that observed in the right eye and the skin and mucous membrane on the right side of the head.—Dr. GLOVER criticised the theory of there being a "port-wine mark" brain as being purely speculative, and hardly

worthy of discussion. It was negatived by the fact that on the skin the mark extended over the left side of the forehead. It was usual for epilepsy to commence in a unilateral manner before becoming general, and he considered that more evidence was wanted before the view in question could be accepted. It was no more to be entertained than was the mother's statement of a fright towards the end of her pregnancy as explaining the extensive marking on the skin.—Mr. GOULD said that five years ago he saw a young woman, twenty-one years of age, who presented an extensive "port-wine mark" on the face, and also on the chest, arms, and slightly on the legs, the distribution of the mark being fairly symmetrical. She was subject to fits, thought then to be hysterical. There was one curious feature in the case—viz., that the right side of the body was much smaller than the left, the growth of the limbs showing great differences.—Mr. FURNEAUX JORDAN had published a case bearing out the fact that parts in the neighbourhood of nævi may be enlarged without sharing in the nævoid condition. It was a case of a large pendulous nævoid mass on the radial side of the forearm, the radius being at least twice its natural size, so that the forefinger and thumb were very large. He attributed this to the increased circulation due to the pressure of the nævus.—Dr. POORE said they must be all obliged to Dr. Sturge for the theory he had advanced, although, seeing how common fits were in children, it might be difficult to accept it without more evidence. Did any change occur in the nævus at the time of the fits? If a "port-wine mark" was present on one side of the brain, it might interfere with the development of the brain, and in that case some difference in size between the right and left limbs might have occurred.—Dr. STURGE admitted that it was a very unusual thing to suppose that a "port-wine mark" existed on the brain, and he would not have raised the question did it not seem probable. He had never seen a case like this, and he did not see why, as the condition existed on all the tissues available for examination on the right side of the head and face, it should not also be present within the skull. The extension on the left side of face was very limited. He had never seen the child in a fit, but directly after a fit the mark shows scarcely any change. There was no difference in the size of the opposite limbs, although she is weak on the left side.

Mr. A. PEARCE GOULD read notes of a case of Amputation at the Hip-Joint, in which the iliac arteries were compressed by Davy's lever. The patient, a man aged twenty eight, was admitted into Westminster Hospital with advanced disease of the hip. Excision of the head of the femur, which was separated from the neck, was performed, but it became necessary to remove the limb. Mr. Gould did this by prolonging his excision wound downwards a short distance, and then severing the thigh circularly—an oval amputation in fact. He claimed for this method that it considerably lessened the extent of the cut surface, and the uninjured inner part of the thigh was very useful in supporting the posterior flap, and in aiding the nutrition of the flaps. He recommended it especially in cases of amputation following excision. The iliac vessels were controlled by Davy's lever passed into the rectum. There was no flow of blood during the amputation, only that lying in the severed vessels escaping. At the end of the operation the blood in the tray, mixed with serum and sawdust, measured less than three ounces. In comparing Davy's lever with Pancoast's tourniquet, which is usually employed, Mr. Gould held that it had the following advantages:—1, it disturbed the circulation less; 2, it did not interfere with the respiratory movements, nor was it interfered with by them; 3, its use was not prevented by obesity, rigidity of the abdominal walls, or the existence of abdominal tumours; 4, the pressure required was less; 5, less liability to injury of viscera and peritoneum; 6, greater ease and security in application; 7, greater cheapness and durability; 8, if the lever were not at hand, its place could be more easily supplied. The lever was first suggested and used by Mr. R. Davy, in a young child, in January, 1877; then by Mr. Gould, in December, 1878, and since then by Mr. H. Marsh, Mr. Armstrong, Mr. Davy, and Mr. Cadge, and in every case successfully. Mr. Gould showed some deep sutures which he had employed to maintain the flaps in exact apposition. They were steel pins riveted at one end to a flat oval disc of vulcanite; this pin is passed through the flaps up to the disc, and then a smaller disc of pure black rubber is slipped down over the pin to the other flap; by its elasticity it grips the pin. Three of them were used, and held the flaps so firmly that the patient was able to turn in bed and move his stump without assistance. The patient progressed very favourably for forty hours, but died at the end of sixty-eight hours, and at the autopsy all the veins of the left foot, leg, and thigh were found to be filled with black coagulum, which reached just into the common iliac vein. There was no sign of injury of the rectum, peritoneum, or arteries.—Mr. MACNAMARA said this was the second case in which he had seen Mr. Davy's method employed—the first being an anæmic child in whom amputation was performed for hip disease. No more than an ounce and a half of blood was lost, and the child did well. Still, the method required great care on the part of the assistant; and the length of the lever from the artery rendered the compression somewhat uncertain. It might injure the rectum, especially in a child. For these reasons he had advised Mr. Gould not to use it, but the result falsified his fears. A few days after he asked Mr. Davy to demonstrate the procedure on the dead subject; and, as it happened, it was found that the lever could not be passed into the rectum of that case. So that it was quite possible it might sometimes fail. At any rate, the condition of the bowel should be first ascertained.—Mr. MARSH had lately assisted Mr. Young, of Sevenoaks, in an amputation for hip-disease, he (Mr. Marsh) having charge of the compressor. He found no difficulty in introducing the rod nor in compressing the vessel, and during the amputation very little blood was lost. The plan was worthy of a careful trial, for Lister's tourniquet had its defects, especially if the patient be in a low condition. A short time ago he amputated the thigh high up for secondary hæmorrhage, and, not daring to put on Lister's tourniquet, the artery had to be compressed digitally. The patient died, losing more blood from the operation than he could afford. The lever may be useful in the treatment of femoral or iliac aneurism.—Mr. FURNEAUX JORDAN had no experience of Mr. Davy's lever, which seemed to be a useful and simple addition to surgical appliances. He had recently recorded in THE LANCET (see p. 405) a method of amputation at the hip-joint by enucleation of the femur, separating soft parts nearly to the knee-joint, then dividing the thigh at its lower part. In that way a large amount of tissue was preserved, and greater safety insured. Only three days ago he had performed this operation a second time, the case being one of rapidly-spreading gangrene. The case was doing fairly well. He had also heard that at the General Hospital, Nottingham, both Mr. Littlewood and Mr. Baddard had performed the operation, giving a series of four successful cases by this method.—Mr. M. BAKER inquired whether in Mr. Gould's case the thrombosis was due to the compression of the iliac vein by the lever. He had found no difficulty in the use of Lister's tourniquet in a case of amputation at the hip; and in two other cases at the Evelina Hospital, where the operation was performed for hip disease, there was no difficulty in compressing the abdominal aorta. In these cases it would not have been necessary to use Davy's lever. Mr. Jordan's method might be of service with reference to antiseptics, but the time it must take would surely favour the production of shock sooner than by a more rapid method. He had recently heard of a case where an hour and a half was occupied in the operation.—Mr. HEATH had assisted Mr. Swayne, of Devonport, in an amputation of the same kind as that subsequently performed by Mr. Lee. The case was one in which the head of the femur had been previously excised; but such cases belonged to a different category from those where a tumour had to be dealt with; and it was *these* cases which were so fatal. Mr. Jordan's method might be described as an elongation of Mr. Lee's. The difficulty experienced in passing the lever in a subject after death might not obtain in the living body, the condition of the rectum being so different in the two cases.—Mr. HOWSE said that in amputation of the hip the choice lay between digital compression of the iliac artery and its compression by Mr. Davy's method; and he could welcome any device by which the great strain of compressing the artery digitally might be avoided. Mr. Jordan's method, although applicable to cases of amputation after excision, was, as Mr. Heath had said, far less feasible when tumours were concerned, and when the head of the femur was *in situ*. In such cases too much time would be required for the operation. Then it was essential to remove all sinus-tissue, which formed so great a factor in the after-history of the patient, for if it were left, lardaceous disease might subsequently

develop. In all his cases he had made flaps of skin only.—Mr. F. JORDAN said that in no case had the operation by the method he had described taken more than four or five minutes to accomplish.—Mr. BARWELL had not found any difficulty in keeping the wound antiseptic. He always performed a rapid operation, using Lister's tourniquet, and saw no advantage in Mr. Jordan's method.—Mr. G. BROWN asked what was the cause of the thrombosis. It seemed reasonable to attribute it to the absorption of carbolic acid. If produced by the pressure of the lever the clotting would have occurred on the opposite side.—Mr. HULKE, in calling on Mr. Gould to reply, said that the discussion had been gratifying. The oval operation was a favourite one of Guthrie's, and he had helped Chas. Guthrie to do it in 1849 or 1850, making an external and internal skin flap, and cutting the muscles short. In military surgery this form of stump was very preferable to a heavy flap in cases where the wounded required removal. The disadvantages attributed to Lister's tourniquet had followed its prolonged use, and not where it was applied only for a short time. The lever should not be advocated unfairly.—Mr. GOULD, in reply, said he believed there was a stricture of the rectum in the case which Mr. Macnamara had referred to. The lever had been once used for aneurism, but only for twenty minutes. In his case there was no sign of injury to the vessels discovered after death. He attributed the thrombosis to carbolic-acid poisoning.

Reviews and Notices of Books.

Atlas of Histology. By E. KLEIN, F.R.S., and E. NOBLE SMITH, L.R.C.P. Parts I. and II. 4to. London: Smith and Elder. 1879.

THIS work, we are informed in the preface, is intended to be "a pictorial and literal representation of the tissues of man and other vertebrates," its chief aim being to teach histology in its modern aspect. The illustrations have been drawn and executed by Mr. E. Noble Smith, from, we presume, preparations and specimens made by Dr. Klein, whose skill is well known to be of the highest order in this branch of the subject. There are two sets of illustrations—one coloured, the other uncoloured: the former exhibiting the aspect of the preparations when stained with hæmatoxylon, carmine, or other staining agent; the latter representing the appearance of fresh specimens. The text comprises, besides the explanation of the illustrations, much additional information in regard to the several tissues.

In the first part there are four plates and eighteen pages of letterpress. The plates comprise twenty-one figures on the blood and eighteen figures on epithelium, and each figure includes several representations of the same object. The first ten figures of Plate I. are devoted to the white corpuscles, showing their appearances when undergoing amœboid movements, and the different forms found in man and mammals. The text gives all the essential particulars at present known in regard to them. The next nine figures give representations of the red corpuscles. The authors entertain no doubt as to the existence of a pre-formed nucleus in the blood of the Ichthyopsida and Sauropsida. Plate II. gives the appearances presented by the red corpuscles, and also the crystals of hæmoglobin, hæmin, and hæmatoidin. In the second chapter and the last two plates is described and figured the epithelium covering the skin and mucous membranes.

The second part is devoted to endothelium, connective-tissue corpuscles as seen in ordinary connective tissue, in tendon, and in the cornea. In the description of endothelium Professor Klein is on familiar ground, having so thoroughly worked out the subject in his well-known "Anatomy of the Lymphatic System" that he is unable to give better drawings than were appended to that valuable work, several of which are here copied. He finds, as in other cells, that endothelial cells contain a plexus of minute fibrils, traversing a hyaline ground plate. These fibrils are in connexion with others that traverse the substance of the nucleus. The cellular elements found in the connective tissues are discussed under two heads—the migratory or wandering connective-tissue cells, and the fixed connective-tissue cells; and numerous drawings are given representing the present views in regard to the structure of the corpuscles in tendon and fibrous tissue. On the whole we are much pleased with these plates. They give very faithful delineations of the objects described in the text, and they are not overcharged. They should be on the table of every practitioner who desires to make himself familiar with the progress of histology.

Medicinal Plants. Parts XXXII. to XXXVII. By ROBERT BENTLEY, F.R.S., and HENRY TRIMEN, M.B., F.L.S. London: J. & A. Churchill. 1878-9.

THIS valuable work approaches completion. As we turn over the pages of the instalment before us, we fail to find any falling off either in the faithfulness of representation or the fulness and accuracy of description in the plates and in the accompanying text. It would be impossible to enumerate all the *new* plants that have been and that are here delineated. Much interest naturally centres in the Pilocarpus pennatifolius, of which the leaves and young shoots are better known as Jaborandi—a term, the authors tell us, including a "number of drugs of vegetable origin employed in Brazil for their sialogogue and diaphoretic properties. Many far more familiar plants, whose yield is not simply and, perhaps, not often employed medicinally, are figured and described—e. g., the cotton and sago plants, the sage, garlic, common wheat, and the coffee plant. Sometimes, indeed, the botanical features of a plant are more peculiar than its medicinal qualities, but the authors have wisely abstained from too exclusive a limitation of the examples they figure and describe. The result is a work which, from all points of view, is a credit to the scientific literature of the day.

OUR LIBRARY TABLE.

The Quarterly Journal of Microscopical Science. Edited by Messrs. LANKESTER, ARCHER, BALFOUR, and KLEIN. No. LXXIV. April, 1879. London: Churchills.—This part opens with a very valuable paper by Professor Klein, in which he gives the results of an extended series of observations on the Structure of Cells and Nuclei, and which is a continuation of a previous paper contained in the journal last year. He shows, by the application of reagents to a great variety of specimens, that the supposed homogeneous or granular contents of cells lining the tubes of mucous, peptic, sebaceous, sweat, salivary, and other glands present, when examined with high powers of the microscope, an intracellular network of minute fibrils, and an interfibrillar hyaline substance contained in the meshes of the former. The interfibrillar substance appears to become converted into the substance secreted by the cell, whatsoever that may be. The article is worthy of attentive study, and is a distinct advance on our present knowledge. Mr. Carpenter gives a careful description of the Apical and Oral Systems of the Echinodermata. Nikolas Kleinenberg gives a long account of the Development of the Earthworm, Lumbricus trapezoides of Dugés. The last article is on the Nematoid Hæmatozoa of Man, by T. R. Lewis. The relations of the mosquito to the filaria are of extreme interest. Altogether an excellent number.

The Popular Science Review. Edited by W. S. DALLAS, F.L.S. No. X., April, 1879.—This number contains:—
1. An article on the Use of Iron Pyrites, by J. A. Phillips.
2. The Evolution of the Elements, by Paterson Muir.
3. The Structure and Origin of Limestones, by Mr. Sorby.
4. The supposed New Crater in the Moon, by Mr. Neison.

5. On Entomology, by Mr. Dallas. 6. The Collapse of the Electric Light, by Dr. W. H. Stone. 7. The Feræ Naturæ of the London Parks, by Mr. Harting. The title of the article on the collapse of the electric light seems to us rather prematurely given. Though Mr. Edison appears to have failed in his expectations, so many minds are now engaged in solving the problem that we have little doubt that no long time will elapse before we obtain a light from electricity having the immense advantage over all others of being comparatively free from heating properties and yielding no noxious vapours. In Mr. Muir's article on the evolution of the elements, the views of Mr. Lockyer on the nature of the elementary bodies are discussed, and are regarded as an open question, though Mr. Muir is of opinion that the different spectroscopic appearances of the same chemical elements and compounds observed by Mr. Lockyer are only due to a modification of the grouping of the atoms.

Our Domestic Poisons; or the Poisonous Effects of certain Dyes and Colours used in Domestic Fabrics. By HENRY CARR, M. Inst. C.E. Small 8vo, pp. 60. London: Ridgway. —This is a capital pamphlet on the privileges which are conceded to manufacturers of wall papers, of artificial flowers, and of various textures used for dress, to poison Her Majesty's lieges, if they so will it, for their own particular pecuniary profit; and to retail dealers to sell the manufactured articles without responsibility for the mischief done by the sale. Arsenic is the favourite poison with these domestic poisoners, but it is not the sole one. It is to be inferred from the larger number of colours and articles into which poisonous materials—and especially preparations of arsenic—capable of exercising their poisonous effects when so used, now enter as pigments or dyes, that instances of poisoning from this source are on the increase. Mr. Carr, moved by the examples which have come to his knowledge, and of which he gives some most striking and instructive illustrations, seeks to promote public action with a view to obtain prohibitory legislation on the subject. We commend his pamphlet and his purpose to our readers.

METROPOLITAN ASYLUMS BOARD. STOCKWELL HOSPITAL.

THE Managing Committee of the Stockwell Small-pox Hospital on the 18th inst. invited those interested in their work to inspect the establishment, which has been closed for several months for a special cleaning, and also for the purpose of accomplishing sundry alterations and improvements. The visitors were escorted over the hospital by Inspector-General Bostock, C.B., Chairman of the Committee of Management, and Dr. F. B. Bernard, the medical superintendent, the former of whom explained categorically the general arrangements, and particularly the alterations and improvements that had been made. The construction and administration of the institution were described in THE LANCET at the time the hospital was established. Many important improvements have, however, been made since the hospital was closed for cleansing purposes. All foul outlets have been disconnected in the exterior face of the buildings, and all that passes now discharges over what is called a Clark's trap, which trap collects the solid refuse at its base, and discharges the liquid by a system of overflow, through slit openings at the side and all round the trap. There is also in each and every case an ordinary S trap beyond. We may here mention that in connexion with the drainage system a hospital drain disinfector, invented by Mr. W. Soper, of Clapham, and described in our columns on July 27th, 1878, is being tried, and as to which we shall hope to receive reports shortly. The soil pipes of all the closets have been ventilated, and the bath apparatus in every ward is so arranged that no foul upcast can possibly occur. This is arranged simply by doing away with the fixed bath system, and making the movable bath on castors or wheels do double duty either in the bath-room or the ward. This is a plan that many other hospitals might advantageously follow.

It is well-known that erysipelas frequently occurs as a concomitant of small-pox. The ward for the reception of such cases formerly communicated directly with the main corridor of the establishment—a most dangerous position. It is now as completely isolated as is perhaps possible under the circumstances, but not as yet sufficiently, according to our opinion, with a sad knowledge of the dire results of this disease when introduced into wards occupied by cases of any epidemic disease.

Another valuable improvement is the establishment of a room for cases sent to the hospital as to the diagnosis of which there is a conflict of opinion. It may be small-pox or it may not. Twelve hours will decide the case, and the dubious case is relegated to solitary confinement for that period. But we may fairly ask, Is one room, containing one bed, sufficient for this purpose in a hospital that accommodates 150 patients? We think not. Dr. Bernard quoted a large percentage of doubtful cases sent, and if his average be quite within the mark, it is obvious that, as two dubious cases cannot be put in the same ward, two or even three rooms of this kind should be provided.

The above brief details include the chief changes that have been made, and the general aspect of the establishment is most favourable in every respect. The managers are particularly fortunate in having selected so very able, genial, and energetic a chairman as Dr. Bostock, and with practical men on the committee such as Mr. Bengough, Mr. Gladding, Mr. Barringer, and others, the institution ought to be conducted well, administratively as well as financially.

HEALTH OF LARGE ENGLISH TOWNS IN THE SIXTEENTH WEEK OF 1879.

DURING last week 5572 births and 3664 deaths were registered in twenty of the largest English towns. The births exceeded by 390 and the deaths by 294 the average weekly numbers during 1878. The deaths showed an increase of 153 upon those returned in the previous week; and the annual rate per 1000, which had steadily declined in the six preceding weeks from 29·1 to 24·8, rose again last week, influenced probably by the return of low temperature, to 25·9. During the three weeks ending last Saturday the death-rate in these towns averaged 26·0 per 1000, against 25·6 and 26·3 in the corresponding periods of 1877 and 1878 respectively. The lowest rates in the twenty towns last week were 14·6 in Portsmouth, 19·3 in Brighton, and 19·9 in Leicester. The rates in the other towns ranged upwards to 27·3 in Salford, 27·6 in Birmingham, 28·8 in Plymouth, 30·4 in Manchester, and 31·6 in Liverpool. The excessive rates in these last-mentioned towns do not appear to have been, to any considerable extent, due to the fatality of zymotic diseases, and were probably caused by exceptional mortality from lung diseases. The annual death-rate in Liverpool from diseases of the respiratory organs and phthisis was last week equal to 12·8 per 1000, while the rate from the same diseases in London did not exceed 9·9 per 1000. The deaths referred to the seven principal zymotic diseases in the twenty towns were 420, against 431 and 388 in the two previous weeks; they included 140 from whooping-cough, 97 from scarlet fever, 75 from measles, and 39 from fever, principally enteric. The annual death-rate from these seven diseases averaged 3·0 per 1000 in the twenty towns, and ranged from 0·0 and 0·5 in Portsmouth and Brighton, to 4·5 and 4·6 in Leeds and Sheffield. Whooping-cough showed the greatest fatality in Manchester and Sheffield; and scarlet fever in Leeds, Sunderland, Nottingham, and Liverpool. The deaths from measles were proportionally most numerous in Wolverhampton and Newcastle-upon-Tyne, and 4 deaths from fever occurred in Salford. Small-pox caused 14 more deaths in London and its suburban districts, but not one in any of the nineteen large provincial towns. The Metropolitan Asylum Hospitals contained 233 small-pox patients on Saturday last, against numbers declining steadily from 353 to 236 in the seven preceding weeks; 47 new cases of small-pox were, however, admitted to these hospitals last week, against 35 and 37 in the two previous weeks.

THE LANCET.

LONDON: SATURDAY, APRIL 26, 1879.

THE prospects of medical legislation are still very far from being satisfactory. The session is getting older week by week, and Parliament appears more and more incapable of doing anything but voting taxes and sanctioning wars. All the parties to attempts at medical legislation have a considerable responsibility at the present moment, but none have so much as the Government. It has undertaken to deal with the great defects of the Medical Act of 1858, which consisted chiefly in this, that it left nineteen bodies to compete with each other in granting licences to practise medicine or surgery—not both. It has produced a Bill which in many respects is the best measure we have had for the purpose, but which still fails to satisfy the demands of the public and of the profession. These demands are principally such a reconstruction of the Medical Council as will make it more independent of corporations with pecuniary interests, and the creation of a single Examining Board for the United Kingdom, or one in each division of the kingdom with due guarantees of equality and efficiency, and above all suspicion of a tendency to trade in its diplomas. There are several other medical Bills before Parliament, which in one form or another more or less fully recognise these demands. These demands are so reasonable and withal so urgent, that the bulk of the profession feel that a Bill which does not meet them, such as the Government Bill, cannot have their support. The Government has so far yielded to this general demand as to have agreed to the appointment of a Select Committee to consider the question of the constitution of the Medical Council. But this does not satisfy the growing feeling that true medical reform means something more than a reconstituted Medical Council and a compulsory conjunction of all the existing Examining Boards; in other words, that it must include a consideration of the claims of the existing individual examining authorities and of the still higher claims of justice and fair play to future generations of entrants into the profession, who obviously should not be bound to pay examining fees that will suffice to perpetuate to all generations all the existing corporations of the profession. As discussion takes more and more definite shape, it becomes clear that we have too many pecuniary interests to consider, and those who represent these interests and those who wish to see them eliminated from the question are alike anxious to have their views considered by a Select Committee.

Here comes in the great responsibility of the Government. They have their own experience and that of the previous Government to show them that a Bill cannot be passed without covering much larger ground than theirs pretends to do. They have had an experience altogether unique—we might say a demonstration—of the infirmities of the present Medical Council, and of its unfitness to advise them; and yet they hesitate to refer the whole subject in dispute to a Select Committee. Dr. LUSH, it is true, expressed himself as satisfied with the undertaking of the Government not to proceed with their Bill until the Select Committee had reported on the constitution of the Council. But no less than three or four amendments face the Government obstructively in any attempt to pass a final measure this year. The arrears of Government business, further, make it almost impossible for them to do so if the Bill were far less opposed than it is. Under these circumstances, it seems to us most desirable that the Government should refer all the Bills to a Select Committee. It is not their fault that the subject is so complicated. It is not altogether their fault that they did not realise beforehand how complicated it is. The Medical Council is to blame for not more candidly and clearly enlightening successive Governments on this subject; although we cannot wholly acquit Ministries of blame for not perceiving that the General Medical Council is, as a deeply interested party, not either an impartial witness or adviser. But this is now clear enough, and as the Government has hitherto acted almost exclusively with reference to the opinions of the Medical Council, with so little result, it is obviously time to consult other and more independent witnesses. The danger is that the Government will allow the precious weeks of the session to drift away without either advancing its own Bill or forwarding the inquiry by a Committee, which would put the question into shape for legislation next session. This is not a question of party politics, and can well be dealt with even at the end of a Parliament. We sincerely trust that the Government will at once see this, and utilise the remainder of the session by proposing a Select Committee to consider all the questions raised by the various Bills before the House. Everybody concerned will submit to the result the more willingly the more thorough and intelligent the inquiry.

SIR HARCOURT JOHNSTONE, who not very long ago strongly entertained the opinion "that Grocers' licences were doing considerable harm," has abandoned that persuasion, and is now "convinced that the proceedings which have been recently set on foot [to abolish these licences] are nothing more than a combination of two extreme parties to squeeze out a third," and he accordingly objects to "any legislation founded upon such a scheme." We will not discuss the Parliamentary logic of the honourable member, because it stands confessed as an absurdity. Whenever two parties, or sections of parties, interested in a public question happen to agree on a particular point, they combine for the support of the special project or measure of policy in respect to which they see alike, and for no other purpose. Sir HARCOURT JOHNSTONE must be perfectly familiar with this feature of tactics, and it is scarcely ingenuous to plead it as an excuse for a change of front which, doubtless, the member for Scarborough is perplexed to defend or explain. Sir HARCOURT JOHNSTONE perceives that the HEROD and PONTIUS PILATE of this controversy have become friendly, and he disapproves the compact; perhaps he would call it the conspiracy. The teetotalers represented by the Church of England Temperance Society—a well-meaning but somewhat enthusiastic body—seem to have made common cause with the licensed victuallers, who, rightly or wrongly, constitute the best

abused trade known to the community. This is very deplorable, and it is easy to sympathise with the astonishment, rising to the height of indignation, experienced by the honourable member. There is, however, more in the combination than even Sir HARCOURT JOHNSTONE appears to recognise. The alliance or conspiracy against the Grocer's licence includes a third party, which is neither teetotal in its aims and proclivities nor has any conceivable interest in upholding the trade in intoxicating liquors. And, although the fact would seem to be forgotten, it was this third party which set the ball rolling, and originated the conspiracy of which Sir HARCOURT JOHNSTONE complains. The first attack in this campaign against the Grocer's licence was made in the columns of THE LANCET, and the onslaught called up no less than nine hundred members of a profession which has perhaps the best possible opportunities for forming a precise judgment as to the working of the licence, to support the movement the member for Scarborough has deserted, and whereof he now complains. We expressly disclaim any sympathy with, or desire to help, the teetotalers on the one hand, or the licensed victuallers on the other; but we are convinced, on evidence to us perfectly conclusive, that the Grocer's licence is the cause of much secret drinking, at odd hours, and apart from meals, which would otherwise be impracticable, especially among respectable women; and on this social and medical ground, and no other, we are of opinion that the licence should be withdrawn. Our primary interest is, of course, as we have said, medical. The health of the people is, we are convinced, seriously injured by drink, and especially by the habit of drinking at irregular hours without food. The laws of health enjoin a very moderate use of alcohol, and they require that, except for medical purposes, it should not be taken or administered alone. The scientific and practical aspects of this question have been amply discussed in these columns.

We recognise the full force of the objection urged against vesting the power of granting spirit and wine licences to grocers in the Justices on the ground that this would create a new monopoly. The way it would work is likely to be this:—In districts where the licensed victuallers' influence was great, few, if any, licences would be granted to grocers; while, where a strong feeling against the trade of the publican prevailed, there would, probably, be an attempt to satisfy the domestic requirements of the local community by granting licences to grocers instead of the lessees of public-houses, thereby creating a petty State of Maine. Sir WILFRID LAWSON would doubtless hail the "opportunity" the proposed transfer of this licensing power to the same authority which controls the number of licensed victuallers' houses in a district must create! Nevertheless we feel that it is necessary the granting and working of the Grocer's licence should be placed under some sort of supervision. As the law now stands, any tradesman, against whom nothing serious may be alleged, can claim from the magistrates a certificate empowering him or her to *purchase* a licence at the Revenue office. The local justices are not empowered, or permitted, to entertain the question of expediency—whether the district stands in need of further facilities for procuring drink. If the country were prepared to throw the trade in intoxicating liquors open without restriction or licence of any kind, we should still urge that tradesmen engaged in other branches of business should not sell drink. The evil we are interested to remedy is *secret* and irregular drinking, such as saps the discipline and happiness of a domestic establishment. We say, let the purchase of intoxicants be done openly. Let those who are entitled to use their own judgment in the matter go, or send, to a shop or store which is publicly known to be set apart for the sale of alcoholic drinks. Do not encourage women, servants, and even children, who would not be seen to frequent a public tavern or beer-shop, in purchasing the commodity they require under cover of visiting an ordinary tradesman's shop for some totally different purpose. Women buy a bottle of brandy, gin, sherry, and even beer, at the grocer's, and carry it home under a shawl, in a muff, or concealed in some way, and, keeping it in their wardrobes, cupboards, or boxes, imbibe a dram at spare moments when they feel "down" or "low-spirited," or threatened with "spasms." This is the bane and misery of social life. In the old times, before these pestilent licences came into operation, ladies were reduced to drinking eau-de-Cologne for a stimulant, while servants consumed lamp-spirit and turpentine. Now they drink gin and sherry, and the mischief works under the fostering protection of this Grocer's licence far below the ken of a Select Committee of the House of Peers or members of the House of Commons. The matter is one falling under the daily observation of the medical profession. It is absurd to ask them to name or even *indicate* cases, because to do so would be to betray professional confidence, and incur personal risks which no practitioner is called upon to face. We cannot but feel that the demand for precise information was an insult to the profession. It was an *opinion* we volunteered, a significant and earnest remonstrance we urged, and the time will probably come when the unheeded appeal will be remembered. Meanwhile the mischief is working, and the dire effects of the Grocer's licence are apparent in families and social life, though the supporters of this secret traffic are not aware of the evil, and have not the wit to be warned.

THE *Annuaire de Thérapeutique* for 1879, edited by M. BOUCHARDAT, gives an abstract of an inaugural thesis by M. TIRVAKIAN, on conine and its salts, which possesses considerable interest. The experiments were performed in the laboratory of M. VULPIAN, and the conclusions arrived at were as follows:—Conine or conicine is a very unstable substance. As commonly sold it is very impure, and gives very variable results; when pure it has a powerful irritant and even caustic local action. Its hypodermic use should therefore be a subject of careful consideration, and should not be rashly adopted. It appears to be more active when ingested into the stomach than when injected subcutaneously. In the latter case it does not completely disappear, the channels of absorption being partially destroyed by its local action. Hence it should, as a rule, be administered by the stomach. It acts as a poison, both on man and animals; but the organism speedily tolerates it, and owing to this toleration it is necessary constantly to augment the dose. There is no danger under these circumstances of a cumulative action being exerted, since conine is rapidly eliminated from the system. Five grains of

conine injected in divided doses into the veins of a moderate-sized dog, are eliminated in the course of two hours, provided any symptoms of asphyxia be removed by artificial respiration. The toxic action of conine may be divided into three stages. The first stage is characterised by depression and a feeling of sadness. General rigors then supervene, which are coincident with the acts of inspiration, and about the same time there is loss of power over the limbs. During the second stage the rigors are more distinctly marked; the respiration is considerably interfered with, becoming incomplete, rapid, and sometimes accompanied by chattering of the teeth; the pulse is quickened; reflex excitability is increased. This period lasts from half an hour to an hour. The third period is characterised by the diminution of the convulsive phenomena, the diminution and abolition of reflex irritability, slowing of the pulse and of the respiration, visual disturbances, and finally profound collapse. A fourth stage might perhaps be added, according to whether the collapse is followed by death or recovery. In the latter case the animal passes through the same phases of intoxication that it had previously presented, only in an inverse order. Sensibility first returns, violent rigors are then observed, the respiratory and cardiac movements gradually regain their former strength and volume, the animal begins to be capable of performing spontaneous movements, the locomotive power is recovered, a drunken condition follows, and at length, in the course of an hour or two, it walks and runs with ease, appearing only to be a little depressed. Conine is neither a muscular nor a cardiac poison; it acts essentially on the cerebro-spinal centres. The substance which acts on the peripheral extremities of the motor nerves is not conine—it is a kind of empyreumatic essential oil, which M. MOURRUT has extracted from conine supplied from Germany, and which probably exists in all commercial specimens of the drug. The chlorhydrate and bromhydrate of conine are stable salts; they induce symptoms which are identical with those of conine itself, but are more energetic. The fatal effects of a poisonous dose of these substances seem to be due to asphyxia. Physiological antagonism between conine and strychnia is possible, but has not yet been demonstrated. The convulsions caused by strychnia can, however, be suppressed by conine. To obtain any sensible effect of the bromhydrate of conine in an adult man, a dose of at least 1·5 grains is required, and the quantity may be increased to three, four, or five grains, according to the effects required or the tolerance of the remedy exhibited by the patient. The bromhydrate is rapidly eliminated by the skin and lungs, hence the doses should not be too small, nor must too long an interval be allowed to intervene between two doses. As much as fifteen grains of conine, and perhaps more, may be given in the course of twenty-four hours, in the form of pills, syrup, or draught, or the same quantity may be administered subcutaneously, as the bromhydrate does not appear to exert any local stimulant action. The symptoms in man closely resemble those observed in animals. They are, briefly—great muscular weakness, lassitude, fatigue, heaviness of the eyelids, heaviness of the head, difficulty of walking, sleep, or often rather a state of torpor without sleep. The intellectual faculties are perfectly preserved. There is no aberration of the sensibility, except sometimes slight hyperæsthesia and tingling of the fingers and toes, but it is never perverted or diminished. Vision is sometimes temporarily disturbed, objects being seen as through a fog. There is no cephalalgia or vertigo. The pupils undergo no alteration. The pulse remains unchanged. There are no disturbances of the digestive tract; neither nausea, vomiting, nor diarrhœa. Respiration, secretion, and the temperature of the body are unaltered. Infants at the breast are not affected by conine when this is administered to the mother, and they bear small doses well. The author believes that conine will be found to be of service in bronchitis or phthisical cough, and in nervous cough, in whooping-cough, in epilepsy, in neuralgic and articular pain. It is rationally indicated in cases of hyperæsthesia, in chorea, convulsion and trembling, and in tetanus.

WHEN, two years and a half ago, Dr. BOWDITCH, in the centennial discourse he delivered on Public Hygiene in America before the International Medical Congress at Philadelphia, spoke with confidence of the future progress of sanitary administration and practice in the United States, notwithstanding a somewhat disheartening past, he spoke, as is now obvious, with a true instinct of the genius of his fellow-citizens. Before his words have lost, by the passage of time, any of the freshness which made them so acceptable on both sides of the Atlantic, Congress has confirmed a measure which must be regarded as the most important (because most advanced and most calculated to influence future progress) that has to the present time been adopted in the United States with reference to public hygiene.

On the 3rd ult. Congress gave its approval to an Act for the establishment of a National Board of Health, or, to use the words of the somewhat incongruous title, "An Act to prevent the Introduction of Infectious or Contagious Diseases into the United States, and to establish a National Board of Health." The Act is a very brief but a very pregnant one. It consists of only four sections. The first provides for the establishment of a National Board of Health. This is to consist of eleven members, seven of whom are to be appointed by the President, by and with the advice of the Senate, not more than one of whom is to be appointed from one State. The members are to receive each two dollars a day compensation, with reasonable expenses, during the time they are actually engaged in the performance of duties under the Act. The other four members are to consist of a medical officer of the Army, a medical officer of the Navy, a medical officer of the Marine Hospital Service, and one officer of the Department of Justice, to be appointed by the secretaries of the several departments and the Attorney General respectively. These members are not to receive any compensation. The Board is required to meet in Washington within thirty days after the passing of the Act, and in Washington or elsewhere, from time to time, upon notice from the President of the Board (who is to be chosen by the members), or upon its own adjournment. It is required also to frame all rules and regulations authorised or made necessary by the Act, and to make or cause such special examinations and investigations at any place or places within the United States, or at foreign ports, as the

Board may deem best, to aid in the execution of the Act and the promotion of its objects.

The second section provides that the duties of the National Board of Health shall be to obtain information upon all matters affecting the public health, to advise the several departments of the Government, the executives of the several States, and the Commissioners of the District of Columbia, on all questions submitted by them, or whenever in the opinion of the Board such advice may tend to the preservation and improvement of the public health.

The remaining sections provide that the Board of Health, with the assistance of the Academy of Sciences, which is requested and directed to co-operate with the Board for the purpose, shall report to Congress at its next session a full statement of its transactions, together with a plan for a national public health organisation, which plan is to be prepared after consultation with the principal sanitary organisations, and the "sanitarians" of the several States of the Union. Further, it is directed that special attention is to be given to the subject of quarantine, both maritime and inland, and especially as to regulations which should be established between State or local systems of quarantine, and a national quarantine system. Finally, it is provided that a sum of fifty thousand dollars, or so much thereof as may be necessary, is to be appropriated for the salaries and expenses of the Board, and for carrying out the purposes of the Act.

The National Board of Health will already have started on its career, and, having regard to the large powers of investigation entrusted to it, we have no doubt that its appointment will form not only an epoch in the history of public hygiene (in the limited sense of the term) in the United States, but also an epoch in their social history.

Annotations.

"Ne quid nimis."

DEATH OF CHARLES MURCHISON, M.D., F.R.S.

IT is with feelings of profound regret we announce the death of Charles Murchison, M.D., LL.D. Edin., F.R.S., which occurred suddenly at his residence in Wimpole-street on the morning of Wednesday, the 23rd instant. This sad event was not altogether unexpected, for it was no secret from many of his medical friends that he was suffering with serious disease of the heart. During the last few months, however, his general health had so much improved that his friends were in hopes his valuable life might be prolonged a few years. It is significant of the whole tenor of his life that Charles Murchison passed to his rest in the midst of toil and active duty. He was engaged in seeing his patients at home when the fatal syncope occurred; and it was in the interval between the departure of one and the announcement of another that the man-servant found that his master had expired. On the present occasion we can do no more than express our deep sorrow at the loss of this eminent member of our profession, who was not merely an accomplished physician, but a good, great, and wise man. One of the last acts of his life was to place in our hands for publication a clinical lecture, which shall appear in our pages next week, and will be read with melancholy interest.

THE SECOND READING OF THE GOVERNMENT MEDICAL BILL.

TWICE in the present week the Medical Bills have been among the orders of the day; but on neither occasion had they had any chance of being discussed. The second reading of the Government Bill now stands second on the paper for Thursday next, and if the Government is really in earnest to advance this question it will probably be brought on on that night. Dr. Lyon Playfair will move a distinct amendment for a Select Committee on the constitution of the Council, and further to consider how far the Medical Bills now before Parliament are calculated to affect, injuriously or otherwise, the teaching of medicine in the universities and other schools.

Dr. Playfair has not hitherto done anything for medical reform. An unnecessary fear for the interests of the Scotch University, and a sort of conservative dread of adapting the Medical Examining Boards to the altered circumstances of the age, have greatly hindered his usefulness in regard to this question. He has even advanced the theory that to raise and to equalise the *minimum* examinations of the three divisions of the kingdom would be to favour a dull uniformity of education. We are not, therefore, sure that we should agree with him in the views he would enunciate before a Select Committee if he should succeed in getting one. But we heartily hope that the Government will grant the committee which Dr. Playfair and so many other members ask for. We have in another column shown various reasons for wishing the Government to take this course.

THE PLAGUE AND THE BRITISH PLAGUE COMMISSIONERS.

OF the foreign medical commissioners sent to the plague-infected district in the province of Astrakhan, all, with the exception of the British commissioners, as we announced last week, have completed their work, and are now journeying homewards. The Governor-General, Count Loris Melikoff, specially appointed over the provinces of Astrakhan, Saratov, and Samara, with extraordinary powers to superintend the measures of precaution as to plague, has also left his government for St. Petersburg, his presence for the moment being no longer necessary on the Lower Volga; and he reached the capital with the greater number of the foreign commissioners on the 16th inst. Surgeon-Major Colvill and Dr. Payne remain at the scene of their labours together with the Russian medical staff which has charge of the infected district. They had completed their work of inspection in Vetlianka, and on the 12th inst. they quitted that station for other localities, and with a view of visiting the left bank of the river. At this date the hygienic measures proposed to be carried out in the infected villages, had been brought to a close, including the burning of infected houses, with the exception, perhaps, of two condemned to the flames, one at Mickhaïlovsky, and the other at Oudatchny. The local communities, it would appear, do not easily recover from the amazement in which they have been plunged by the wholly unexampled and painful cleanliness of surroundings which has been forced upon them, but they are beginning to feel somewhat sharply the heightened prices and the deficiency of grain, and other articles of food, which have resulted from the prolonged sanitary cordon with which they have been surrounded. Indeed, it has been necessary to take special measures to counteract the disastrous effects of the cordon upon the local food supplies. It has not transpired what course Messrs. Colvill and Payne have been instructed to take in the anomalous position in which they now find themselves. Their instructions, it would appear from the recent annual address of the President of the College of

Physicians, were drawn up by the Plague Committee of the College, so that the prospect of the College escaping reputably from the ridiculous position in which it has allowed itself to be placed is not very hopeful.

The first sitting of the heads of the various sanitary detachments on the Lower Volga took place on April 10th. At this and subsequent meetings it was determined to maintain the special cordons around the infected villages until April 22nd if the cold continued; to keep the medical staff in the infected area at its present strength until July 27th, and afterwards, nothing occurring to make a reconsideration of the question necessary, to reduce the strength one-half, and keep it so until January 1st, 1880; to organise a strict supervision of the villages and fisheries in the infected area; to establish at Nicolsky, Sasykolsk, and Vetlianka small hospitals, and in each of the other villages a dispensary, from which medicines and medical comforts will be distributed gratuitously.

THE ZULU WAR.

THE force which started on the 28th of March to relieve Colonel Pearson at Ekowe was accompanied by Surgeon-Major Thomas Tarrant as senior medical officer, with twelve medical officers to assist him, and a detachment of the Army Hospital Corps. Owing to the enormous difficulties connected with transport, only one field hospital, equipped as lightly as possible for fifty beds, was able to follow the column. A few ambulances, water-carts, and ship-cots, arranged like the "Ashantee cot," and carried by Kaffirs, also accompany the troops. The base hospital at Durban contained, the last week in March, 150 sick, the cases chiefly fever and dysentery; the more serious of these considered to require change to England will be invalided and despatched in parties by the mail steamers leaving Port Natal weekly. Fever is still very prevalent at Helpmakaar and Rorke's Drift. A letter from an officer at the latter post states that the body of Surgeon-Major Peter Shepherd, who gallantly fell at Isandula, had been recognised by the party who volunteered to revisit the battlefield; his death was due to an assegai wound. Lieutenant Hall, of the Army Hospital Corps, who was also amongst the slain that day, was, at the time of the attack, on the sick list with fever and diarrhœa, and was assegaied in the ambulance-waggon.

THE TREATMENT OF NEURALGIA.

ACONITE is an old remedy in neuralgia, which has, however, not altogether realised the expectations which were formed of its value. The power which it often lacks has been lately claimed for its alkaloid by Professor Gubler, who announced that aconitia is almost infallible in trigeminal neuralgia. This substance was long banished from the materia medica for internal use, but it has been employed occasionally since the discovery of a crystallised form by Gréhaul and Duquesnel in 1871. Its value in neuralgia has lately been investigated by the New York Committee on Neurotics, of which Dr. E. C. Seguin is the chairman. The dose of all forms of aconitia is about the same, the initial dose being about half a milligramme ($\frac{1}{130}$ grain) twice or thrice a day. Gubler states that the dose of amorphous aconitia may be gradually raised to half a centigramme, but Duquesnel's preparation has to be given with greater caution. There are, however, differences in susceptibility, and some persons cannot bear a larger dose than $\frac{1}{260}$ of a grain; while one case was met with in which $\frac{1}{4}$ of a grain every three hours was tolerated. From a trial of the treatment in a series of cases, the committee conclude that, on the average, distinct physiological and therapeutical effects may be obtained by giving $\frac{1}{100}$ of a grain three times a day. Of six cases of severe trigeminal neuralgia, one, probably a reflex neur[illegible] from a decayed tooth, was not at all benefited. Three cases of epileptiform neuralgia were slightly or only temporarily relieved. Two cases were cured. One of these had existed for seven years, with an interruption of seven months, procured by resection of the affected nerve. The results thus afford a partial support to M. Gubler's assertion.

The value of ammoniacal sulphate of copper in the treatment of the same affection has been asserted by M. Féréol in a recent communication to the Académie de Médecine. He states that in cases in which every treatment has failed, even the administration of gelseminum and of aconitia, a cure or remarkable relief may be obtained to the most severe symptoms by this drug. Among the examples he gave of its use was the following:—Trifacial neuralgia of two months' duration, with absolute (?) insomnia, was unrelieved by the extraction of teeth, quinine, bromide, aconitia, or tincture of gelseminum, hypodermic injections of morphia, or arsenic. From the first day of the administration of the ammonia sulphate of copper there was a notable remission in the symptoms and cessation of the insomnia. In one case the dose was pushed to eight grains without any other accident than nausea. It has the drawback of occasioning a persistent metallic taste in the mouth. Only one case of intolerance was met with; in that a grain and a half of sulphate of copper occasioned violent vomiting.

NURSES FOR ALL CLASSES.

WE are glad to find that the effort to furnish trained nurses for all classes of the sick in private families, at institutions, and in districts for house-to-house visitation, is assuming a distinct form; for example, at Worcester, where, under the presidency of the Earl Beauchamp, an influential meeting has recently been held. The need of village nurses to minister among the poor in their humble homes is very great, and a large measure of real good will be effected if the demand which exists can be promptly and efficiently supplied. The danger to be guarded against is the possible, if not probable, usurpation of medical functions by the persons trained to nurse the sick. This is a most important contingency. It should be distinctly understood, and clearly and persistently enforced on nurses, that the instruction given cannot be of a nature to impart any knowledge of disease or of its appropriate remedies and treatment. The single aim must be to develop the skill and sympathy which exist in every humane person, though more strongly marked in some individuals than in others, to the point of highest perfection for the care of the sick and suffering. All "knowledge" which goes beyond the obvious limits of such a purpose must be injurious—not merely valueless, but mischievous. We wish well to every effort to perfect and extend the system of training nurses upon the lines of prudence which common sense indicates. The movement should derive new impulse from every season of special sickness and poverty like that through which we have been for some time, and are still, passing.

FEVER MORTALITY IN DUBLIN.

THE mortality statistics of Dublin, from whatever point of view they are regarded, afford undeniable evidence of deplorable sanitary condition. The statistics of the mortality from fever, including typhus, enteric, and simple fever, furnish perhaps the strongest evidence of the existence of conditions within the city favourable to the production and fatality of "filth diseases." The deaths referred to fever in Dublin, which had been 247, 260, and 280 in the three preceding years, further rose to 333 in 1878. Those fever deaths in 1878 were equal to a rate of 1·06 per 1000; whereas the average death-rate from fever last year in twenty of the largest English towns did not exceed 0·43 per

1000. Fever fatality in Dublin showed a still greater excess in the first quarter of this year, for 119 deaths from fever were registered within the Dublin registration district during the thirteen weeks ending 29th March last, being equal to an annual fever-rate of 1·60 per 1000; while the highest death-rate from fever in any of the twenty largest English towns during the same period was but a fifth of the Dublin rate, and only 0·32 per 1000. The highest rate in the English towns was 0·57 in Liverpool. It appears that the fever death-rate in Belfast during that quarter was still higher than in Dublin; but this can afford but scant comfort to the fever-stricken residents of the latter city.

SUPERANNUATION ALLOWANCE TO POOR-LAW MEDICAL OFFICERS.

WE have received a well-authenticated account of the circumstances under which Mr. Charles Warren Price has resigned the office of surgeon to the Longtown District of the Don Union, Herefordshire—a very difficult and rough country. We cannot but think that there has been a great miscarriage of justice in the matter. Mr. Price had served the Board for upwards of twenty years without a single complaint of neglect or inattention. But latterly, in consequence of failing sight, he was obliged to engage a qualified assistant. This was not satisfactory to the guardians, who appealed to the Local Government Board, who advised that if Mr. Price resigned he should have either a pension or a handsome allowance. Mr. Price resigned, and a successor was appointed; but, in consequence of his successor not appearing at the expiration of Mr. Price's term of office, the latter gentleman was compelled to discharge the duties two months longer. The duty was unusually arduous in consequence of an epidemic of fever and a greater number of pauper patients than during any period of the previous twenty years. Now came the opportunity for the Board to show its appreciation of a servant who had served them so long and so well. Mr. Price was entitled to be paid for his two months of service without a contract at the rate of payment which a private practitioner may expect for attendance on the labouring classes, or in doing an act of accommodation to the guardians. Instead of this, he was paid £12 10s., and an additional sum of £12 10s. as a recognition of his faithfulness over a period of twenty-two years, and of his kindness in stopping a gap. The recommendation of the Local Government Board was disregarded, and the Act of 1870 was broken in letter and in spirit. We cannot believe that the guardians will refuse to reconsider their action in this case.

MARINE DIETARY.

THE *Shipping Gazette* of the 18th inst. reports an important case recently tried at Havre before the Police Tribunal, in which the master of a French vessel was charged by the public prosecutor with not having on board a sufficient supply of fresh provisions on a voyage from Corinto to Havre, and with having refused to put in at Ascension, St. Helena, or the Western Islands to obtain them. The trial lasted three days, and on some legal technicality the captain was acquitted. But, as our contemporary remarks, the mere fact that the master of a vessel in the French mercantile marine can be even charged with such an offence shows that the law is much more stringent in these matters than in the United Kingdom. Here, the dietary scale is, legally speaking, left entirely to the discretion of owner, master, and man, the last-named individual seeing the list of provisions offered, and signing for them accordingly. In nineteen cases out of twenty the sailor never reads the list at all. There are certain scales of diet in common use for certain voyages, but none of these are fixed or settled in any way by law, and we dare to say that, even in the nineteenth century, Jack might be easily misled to sign articles with a starvation scale of diet appended. Instead, however, of legislating for good food, our paternal Government shuts the door when the steed is stolen, and insists that the owner and master shall provide and regularly distribute antidotes for unwholesome and insufficient food. Our limejuice laws afloat have, since 1867, been administered with tolerable strictness. But would it not be better that the Board of Trade, the department charged with these enactments, should attack the evil at its fountain head, and, as across the Channel, indicate the kind and quantity of provisions that should be carried on certain voyages? It is within our knowledge that the medical advisers of the Board have frequently urged the subject upon the attention of the department. But they "order this matter better in France," and the captain above-quoted had, we are assured by our contemporary, a very narrow escape.

DEATH OF M. GUBLER.

OUR Paris correspondent writes:—"I have just received news of the death of Professor Gubler, who for more than six months had been suffering from a disease of the stomach, and who had been obliged to retire from his *clientèle* and professional occupations, and seek the benefit of the milder climate of the South. Rest and the enjoyment of the charming villa which he had only recently bought near Toulon, proved ineffectual to restore his shattered health. Until now the real character of his illness was unknown to his friends and colleagues of the Faculty, and, indeed, to almost everyone. He retired about six months ago, when he felt himself affected, and since then with jealous care he kept the real condition of his health concealed from all his friends in Paris. From time to time he wrote to say that he would soon come back to resume his practice and lecturing at the Faculty; and only about a week ago one of the professors of the school informed me that they had then received another message of the sort from their absent colleague. The news of his death, which has just come to Paris, will therefore be a source of surprise as well as of regret to all."

SANITARY HOSPITALS.

THE Local Government Board has caused a circular letter to be issued to the sanitary authorities of England and Wales, asking for information as to the hospital accommodation (other than in connexion with workhouses) which exists available for the isolation of infectious diseases in the several districts. The Board also requests that the medical officers of health of the districts where such accommodation is found shall be called upon to report as to the working of the arrangements for isolation of patients, and upon the influence which, in their opinion, such isolation has exercised upon the spread of infectious disease. A schedule of the particulars of information required by the Board, so arranged as to facilitate compliance with the Board's request, accompanies the circular letter.

The step thus taken by the Local Government Board is somewhat tardy, but it ought to furnish material of considerable utility to sanitary authorities on the subject of sanitary hospitals, and of a kind which we know to be much wanted by them. We must confess, however, to considerable disappointment that the information desired by the Local Government Board is being sought by correspondence. We distrust information so derived, especially when, as in this case, it relates to a new and difficult subject on which much divergence of opinion exists among sanitary authorities. It is a subject to which the energies of one or more of the skilled inspectors of the Board—for example, as in a medical inspector associated with an inspector from the

architectural or engineering departments—might well, we should have thought, been devoted. Of course, the inquiry by correspondence does not preclude local investigation by inspectors, and may even be a necessary preliminary to such investigation. But as the Board's circular reads as if it were the beginning and the end of inquiry, and the inspectorial element of the Board, notably on the medical side, is notoriously below the requirements of the Board's administrative duties, it is natural to fear the worst.

HULKS v. BARRACKS.

WITH reference to the discussion now going on as to the desirability of lodging blue-jackets and marines in hulks or barracks, the *United Service Gazette* very opportunely reminds its readers that hulks are not ships in the proper sense of the term. The former are at permanent moorings, and are sometimes even moored fore and aft, perhaps in comparatively close proximity to the sewage outfalls of the town off which the vessel is situated; and in way of obtaining fresh air and change of air, no sort of comparison can be made between a commissioned ship and a vessel constantly in harbour. Indeed we have always declared that the schoolship question is one that, on sanitary grounds, is deserving of grave consideration; for unless all arrangements tending to maintain health are most fully and faithfully carried out, a vessel at permanent moorings is not a proper place for either boys or adults who are supposed to be in good order for active service.

THE ESTIMATION OF SUGAR IN URINE.

A SERIES of observations to determine the relative value of the more delicate methods of ascertaining the quantity of sugar in urine have been undertaken by Hagen and Müller. The object was especially to ascertain whether any other method was more reliable than that with Fehling's solution, which possesses the grave disadvantage that with very small quantities of sugar the oxide of copper which is formed is not precipitated. Where it can be employed, Fehling's method is considerably more accurate than estimation by polarisation—some ·3 to ·4 per cent. For comparison with Fehling's solution they employed the reduction process of Knapp, in which a solution of mercury cyanide is used, which is decomposed on boiling with grape sugar, metallic mercury being precipitated. Their experience is that this method is thoroughly available for urinary analysis.

Their investigations were directed especially to the settlement of four questions:—1. Do the two methods give the same result? A series of twenty-six estimations of diabetic urine by each method showed that both methods agree. Pillitz arrived at the same conclusion. Hoppe Seyler thought Knapp's method much less accurate than that of Fehling. 2. Can Knapp's method be employed when Fehling's gives no result? According to these experiments Fehling's method ceases to be available when the quantity of sugar is below ·7 per cent. Knapp's method, however, could be employed down to ·1 per cent. of sugar. It is true that so small a quantity of sugar can only be estimated with the greatest care. Every specimen of urine contains, in greater or less quantity, substances capable of causing reduction, and which act on the solution of both Fehling and Knapp just as sugar does. 3. Which of the two methods is to be preferred? Knapp's method is available in all cases, Fehling's only in a limited number. Knapp's solution can be prepared quickly and easily, can be kept without alteration, and can be employed for the estimation of sugar more rapidly than Fehling's. On these grounds they prefer Knapp's method. Of course, both it and Fehling's only show the quantity of reducing substance in the urine. 4. The estimation of sugar in albuminous urines. It is commonly assumed that the albumen must first be separated from the urine. It was shown that albumen hinders the precipitation of both mercury and copper, since the precipitate remains partly in solution and partly suspended. This action is not, however, distinct unless the albumen is more than ·2 per cent., and if less than this the sugar may be estimated without preceding separation of albumen. This was demonstrated by a series of double estimations with and without the separation of the albumen. Lastly, the question is discussed how far it is justifiable to regard reducing power and sugar as correspondent. In urine which is quite free from sugar ·087 to ·37 per cent. of apparent sugar may be discovered, and this amount of error must evidently occur in every estimate of sugar in diabetic urine. It is urged that recent examinations of the blood all incur the same error, and, however accurately the oxide of copper may be estimated, this source of uncertainty remains. Lehmann's older observations were free from this source of error; from muscle, brain, and lungs, extracts were obtained which reduced abundantly, but contained no sugar.

WIDOWS AND ORPHANS OF MEDICAL MEN.

THE annual meeting of this Society will be held on Wednesday, the 30th instant, at 53, Berners-street. We should like to see very much more interest in this Society than exists; we should not, in that case, have so many pitiable appeals made on behalf of widows and orphans of medical men. It is surprising that much of the interest displayed in the Society is shown by members of the profession not likely personally to benefit by their connexion with it. The younger members of the profession should consider the advantages which the Society offers both as an admirable form of life assurance and a way of helping the widows and orphans of professional brethren who fall prematurely in the fight of life and practice.

THE DEAF AND DUMB.

NOTHING appeals so much to human sympathy as the condition of those whose special affliction debars them from community of thought and expression with their fellow creatures. All information, therefore, we can gather respecting the education and training of the deaf and dumb is both valuable and interesting. The report of the Western Pennsylvania Institute for the Instruction of the Deaf and Dumb just issued will repay careful perusal, and will tend to make the character, condition, and necessities of the efforts for the education and elevation of this peculiar class of unfortunates better appreciated by the community at large. The institution in question is neither an almshouse nor an asylum, but an educational institution designed to meet the requirements of a number of children whose infirmity debars them from the advantages of the public school system. It is, in our opinion, clearly the duty of the State to undertake the responsibility of the education of these unfortunates, and not to pauperise or degrade them by leaving them to the mercies of the workhouse or the efforts of individual charity. It must be an additional calamity, and add greatly to the bitterness of life for them, to reflect on their dependent condition. Intelligent and liberal State aid would do much to diminish these feelings, and would raise their social position from that of paupers, or objects of charity, to that of children of the Board schools, whilst in adult life they would be free from that feeling of dependence that invariably clings to the child raised in the almshouse or asylum. We hope, in this respect, England will not be long in following the example set by many of the States in America.

THE FORTY-SECOND REGIMENT.

WE are sorry to hear from Gibraltar that the health of the gallant 42nd Highlanders is still far from satisfactory. Last week they had 80 men in hospital and 50 convalescents, and it is contemplated to send 150 men to England for change of climate. May we suggest to his Excellency the Governor that it would in the end be a better and wiser plan to send the whole regiment home? A year or two at a healthy bracing station like Shorncliffe or Dover would probably shake off the Cyprus fever which at present so tenaciously clings to the "Black Watch."

SMALL-POX IN PARIS.

THE epidemic of small-pox which has shown itself in the Faubourg St. Antoine and the poor and densely populated districts of La Roquette, La Chapelle, &c., is beginning to excite the serious apprehension of the medical and municipal authorities of Paris. Since the beginning of the year 157 deaths from variola have been registered. The wards of the Children's Hospital are full, and one of the *interns* in pharmacy of that hospital has died from the disease which he took in the wards. Several very interesting facts have already been noted in respect to the origin or spread of the epidemic; for instance, Dr. Roussin, an eminent practitioner in one of the infected quarters, has stated the curious fact of one side of a whole street being full of cases, whereas the other was positively free from the disease.

CO-OPERATION EXTRAORDINARY.

WE regret to find the Directors of the Clergy Co-operative Association entertain so poor an opinion of the feeling of honour existing in our profession as is implied in the following notice taken from their last prospectus: "A directory of medical practitioners printed on tinted paper will form part of the appendix" to the price list. The charge for insertion in this list is to be for shareholders and life members 5*s*. per quarter, for all others 10*s*. It is enough to say of such an overture that it is one to which no medical man with any feeling of self-respect, or sense of what is due to the etiquette of his profession, will accede.

THE annual elections for President, Vice-President, Secretary, and Council of the Royal College of Surgeons in Ireland will take place early in June. Mr. Mapother, at present Vice-President, will, in accordance with the usual rule, become President; and, for the vacancy thus caused, Dr. M'Clintock, a well-known obstetric surgeon, is a candidate. It was rumoured, however, some time since, that he would be opposed by a provincial surgeon, Mr. Chaplin, of Kildare, and, should this be the case, a close contest may be expected, as both gentlemen will have numerous supporters.

NOTICE has been served on the Governors of the Ely Grammar School by the urban sanitary authority, requiring them within seven days to provide sufficient waterclosets, to make a drain and sewer in Upper Hill-street, and to obtain a proper supply of water. This matter has been pending for some time, and it is highly discreditable that it should be necessary to employ the full force of the law before proper attention is paid to the sanitary condition of an important educational establishment.

SMALL-POX has broken out in the town of Enniscorthy. The guardians, with commendable energy, at once selected a house near the workhouse, which is being fitted up as a small-pox hospital. In the meanwhile the medical officers have taken measures to burn infected clothes and purify the dwellings where the disease has occurred.

DR. WHITMORE, in his last monthly report, protests against the inconvenience of the arrangements in Marylebone in respect to inquests. It appears that this parish has a good mortuary, and also a good post-mortem house, but that they are nearly two miles apart, and as a consequence the latter is very rarely used. Moreover, the coroner has still to hold his court in the public-house which happens to be most convenient for his purpose. This is not a creditable state of things for an important parish like Marylebone; and Dr. Whitmore urges that a proper building should be erected which should contain a coroner's court-house, a mortuary, and a post-mortem room.

DR. BYROM BRAMWELL, who has just removed from Newcastle-on-Tyne to Edinburgh, has received an address from the medical students, past and present, of the University of Durham. Dr. Bramwell's work, as physician and pathologist to the Newcastle Infirmary, has been of a nature to command the respect and confidence of competent judges, and it is only natural that his removal to a larger sphere of labour should be accompanied by warm expressions of regret and regard from those he is leaving, accompanied, as these are, with best wishes for the future.

THE fatal effect of the decision pronounced by a Scotch superior court, that a food-inspector was not prejudiced if an adulterated article was sold to him, is well illustrated by the annual report of the Dublin analyst, Dr. Cameron. During the year, 125 articles of food and drink had been analysed, and though 17 were found adulterated, only eight prosecutions were attempted. The more recent decision of the English Courts will, however, enable inspectors once more to carry out the Adulteration Act.

LADY BAKER, the well known authoress, and wife of the Hon. F. Napier Broome, C.M.G., Colonial Secretary at Mauritius, is organising a corps of nurses on that island, and intends to accompany them to Natal, to assist the sick and wounded in the Zulu campaign. Mr. Broome was, up to the last year, colonial secretary in Natal, and the authoress is well known in Pietermaritzburg and the neighbourhood, where she lived many years.

DURING Colonel Wood's relief march with Obain's wives, children, and followers, three little Zulus appeared on the scene, all arriving on the morning of the second day. The three mothers, however, were left with a guard, continued their journey without difficulty in the course of the day, and arrived in camp with their increase to the Zulu population, exhibiting the children (according to the *Times* correspondent) with no small amount of matronly pride.

A DISCUSSION occurred some ten days ago in one of the Irish police-courts as to the responsibilities of cottage proprietors. The agent of Lord Pembroke was summoned for the filthy state of the roadway opposite some of his cottages, but it was contended that the Corporation was bound to keep this particular roadway in repair. The case was considered so intricate that the judge reserved his decision!

DR. CLOUSTON has been appointed Lecturer on Mental Diseases in the University of Edinburgh by the Senatus Academicus. This is a new lectureship, instituted in accordance with the recommendation of the Universities Commission, the subject having been taught previously by the Professor of the Practice of Physic, in conjunction with Dr. Clouston.

A GRAVEDIGGER is said to have met with his death at Stapleford the other day by blood-poisoning, induced by inhaling foul odours from a grave adjoining that in which he was digging.

WE regret to record the death of Mr. Clement Rhodes, surgeon, of Albert-terrace, Clee, which took place at his residence on the 16th instant, after a very brief attack of acute gastric catarrh. Mr. Rhodes commenced practice in Grimsby so recently as February in last year, and was only twenty-five years of age.

IT may be useful to remind the members of the Pathological Society that, in order to get through the large amount of business still on the agenda, an extraordinary meeting is to be held on Tuesday next, the 29th inst., when several specimens of considerable interest will be brought forward.

WE regret to observe the death of Surgeon-Major King John Parr, Army Medical Department. Dr. Parr joined as assistant-surgeon in March, 1859, was promoted surgeon-major on April 1st, 1874, and only retired on temporary half-pay on the 21st of last month on account of ill health, due to service in India.

ACCORDING to the most recent evidence, gleaned from Zulu prisoners, most of our men were killed at Isandula with assegais, not with the gun. One witness said, they "stayed there to die; they did not even turn their heads to look behind them."

MESSRS. BARRAUD AND JERRARD have sent us a *carte de visite* of the late Dr. Murchison, F.R.S., which will be welcomed with mournful interest by the friends of this lamented member of our profession.

THE Cleansing Committee of Aberdeen have advertised for an inspector, offering a salary of £100 per annum. No less than 326 candidates presented themselves to fill this office!

SURGEON-MAJOR GRIBBON, A.M.D., has been appointed to the medical charge of the Dalhousie Sanitarium, *vice* Surgeon-Major W. R. Stewart, whose tenure of the appointment expired last month.

SURGEON-MAJOR MURRAY and Surgeon Fogerty have proceeded with the 54th Regiment from Fort-William, Calcutta, to Burmah, in view of active operations on the Burmese frontier.

SURGEON-MAJOR W. H. CLIMO has succeeded Surgeon-Major J. H. Rowbottom in the medical charge of the Convalescent Depôt at Kasauli.

SANITARY REFORM AT THE ARMY CLOTHING DEPOT.

IN a special report on the contamination of army clothing published in February last year we pointed out the serious danger of spreading disease in the army by allowing uniforms to be made in private lodgings, which were often fever dens. Our action in this matter was so energetically supported by the press at large, that the matter was brought before the House of Commons, and the Secretary for War then promised to take special precautions against the danger of infection. But large administrations are proverbially slow in their movement, and we had to wait all this time before an opportunity presented itself of recording the realisation of some improvement. The papers have announced that all the hands engaged at the Army Clothing Depôt, and they number above sixteen hundred, had been discharged, the factory closed for a week, and then re-opened under a new system of payment and management. Further, it was stated that the reduction imposed on those who applied for re-engagement was equal to five, and in some cases ten shillings per week. From this it might be supposed that, as the earnings were to be decreased, the sanitary condition of the homes inhabited by the workers could hardly be expected to improve. On inquiry at the factory itself, a very different account was given to us by the principal manager. According to the assertions of this responsible official, the first object held in view was that of enabling the Government factory to compete with the private contractors. These latter in many cases were small East-end "slopworkers" and "sweaters," and the uniforms manufactured by such agencies were far more likely to be contaminated. Secondly, the workers, though now receiving smaller pay, are to work for more hours per week, so that their incomes would not be decreased, but they would be compelled to remain a longer time in the well ventilated and spacious Government factory. Thus the women who make trousers get a penny per pair less, but, as they work an hour per day more, their incomes will probably be, we were assured, if anything, increased! All the women, it is stated, have accepted these conditions, finding that they still earn more by working for Government than for the "slop trade." By this change it is urged the factory will be able to produce a far greater number of uniforms, and reduce the proportion made by contractors from about one-third of the total amount to one quarter. It will now be possible to deal exclusively with the larger and more respectable contractors who have factories, and over whom it is more easy to exercise sanitary control. This is not all, however. The amount of clothes given out to the hands who persist in working at home has been sensibly decreased. All newcomers will be compelled to work in the factory, so that the outdoor work will gradually be abolished, and this is now limited almost exclusively to cotton and linen goods. The workpeople are rarely allowed to take woollen goods home, on the ground that these latter are more likely to harbour the germs of infection.

Such is the nature of the explanation given us to attenuate the fact of the reduction in the wages; and our readers have noticed that the matter was brought before Parliament by Sir Charles Russell and Mr. Mundella. In spite of Lord E. Cecil's categorical reply, and the explanation given above, we fail to see that there was any pressing necessity to reduce the wages of the workpeople. Should Parliament ever seek to enforce so unpopular a form of retrenchment, it will then be time enough for the administrators of the Army Clothing Factory to yield, under protest, to superior authority; but that they should have taken the initiative in the matter we cannot approve. A great number of the workpeople have a distinct claim on the nation. They are the widows and orphans of men who have died in the service of their country, and should not be brought under the hard, heartless law of supply and demand. If an economical policy is absolutely necessary, it should begin by reducing the salaries of the highly remunerated superior officials, before any attempt is made to touch the daily bread of these interesting, respectable, and poor workpeople. The Government would not have lost any popularity by placing itself in this instance above the laws of supply and demand. Fortunately, however, a committee "consisting of gentlemen conversant with business, but in no way connected with the department, or with the public service," will be appointed to investigate the whole question. We would strongly urge that to this committee one or two gentlemen should be added who are conversant with the sanitary phase of the question, and who will see how far these alterations correspond with the all-important interests of public health, and tend to mitigate the risks of infection

which our soldiers incur when they receive uniforms made in fever dens.

Pending the final solution of the question relating to the reduction of wages, which will require more careful elucidation than has been possible at this early stage of the dispute, we must at least congratulate the administration of the depôt on the realisation of important sanitary improvements. Apart from what has already been stated with regard to giving out clothes to home workers, we find that a new system of book-keeping has been introduced, so that all the addresses of the workers are carefully recorded, and their homes occasionally visited, though, we fear, with not sufficient frequency and regularity. Finally, a large and excellent disinfecting chamber has just been built, where several hundred uniforms may be disinfected by dry heat for an outlay of a shilling in coals. The old uniforms returned by the militia, and the new clothes, when it is ascertained that they have been made in infected houses, are here purified. As the cost and the trouble of disinfecting are now so inconsiderable, and in no way injurious, we would strongly urge that all the clothes received from private contractors should at once be submitted to the dry-heat process, and this before they are admitted into the store and viewing rooms, &c. We are glad to note that the drains, which were condemned in our report, have been entirely rebuilt, and the water-supply improved. All the hands are now submitted to rigorous examination by the resident medical officer, with regard to vaccination, while formerly many escaped this control. The factory itself, during the week it was closed, was thoroughly cleaned, and undoubtedly it wanted this wholesome renovation. In conclusion, we would suggest that if lower wages are paid, the authorities will be all the better able to afford compensation to the piece-workers, as well as to the time-workers, when they are excluded in consequence of infectious illness. This is essential to prevent deception, and is a reform which should receive immediate attention.

VOLUNTEER AMBULANCE DEPARTMENT.

A NUMEROUS gathering of Volunteers and their friends took place in the Guildhall on the evening of the 16th inst. to witness the distribution of certificates of efficiency to members of the ambulance class by the Right Hon. the Lord Mayor, who bore testimony to the growth and development of this comparatively new offshoot of the Volunteer service.

It is barely eighteen months since the project of an Ambulance Department was originated by Lieutenant A. Maclure, of the "London Scottish," the energetic honorary secretary, and yet in this short space of time nearly five hundred volunteers from different regiments and corps have gone through a course of lectures, stretcher-drill, practical instruction in bandaging, and the application of temporary dressings; and after an examination the larger proportion have received "certificates of efficiency." On this occasion the recipients were members of a class who had been instructed by Surgeon R. A. Jackson, of the 38th Middlesex, and numbered 140 rank and file. They were drawn up in three squads, under the command of Surgeon-Major F. Egan, of the South Middlesex Rifle Volunteers. Prior to the arrival of the Lord Mayor, they were inspected by Surgeon-General William Munro, C.B., who was accompanied by Surgeon-Majors W. Don, A. Clarke, Captain Pringle and Lieut. Mackay, of the Army Medical Department. Punctually at a quarter to eight o'clock the Lord Mayor, the Lady Mayoress, and several ladies arrived at the hall, and were received by Surgeon-General Munro and his staff. The volunteer squads then went through the stretcher drill. Six men with imaginary wounds, the nature of each being inscribed on a card, lay down, stretchers were brought up and placed alongside them, tourniquets, bandages, splints, and dressings were applied, and the wounded borne off to hospital, having been carefully lifted in the orthodox manner on to the stretcher by the bearers told off for that duty. After the drill, which the Lord Mayor watched with great interest, the detachment was formed up in front of the dais, and the certificates of efficiency were presented by his lordship. Surgeon-General Munro then proposed a vote of thanks to the Lord Mayor for his kindness in supporting the movement, complimented the volunteers on the intelligence and steadiness they had shown in their evening's work, and the proceedings terminated.

A new class of instruction, under Surgeon Thos. Faris, A.M.D., Instructor of the Army Hospital Corps at Aldershot, will commence on Wednesday evening, at 7.30 P.M., in the Guildhall, the use of which has been specially granted for the ambulance classes.

Correspondence.

"Audi alteram partem."

FULHAM SMALL-POX HOSPITAL.

To the Editor of THE LANCET.

SIR,—The question whether the small-pox hospital at Fulham may not be a danger to the locality by direct infection still agitating the public mind, I have been requested by the Kensington Vestry to ask you to permit me to draw the attention of the profession to the fact that on the 4th, 5th, 11th, 14th, and 15th days of April many thousand people were congregated in the immediate vicinity of the hospital—viz., at the Lillie-bridge or at the Stamford-bridge running-grounds. The vestry are of opinion that if there be any basis for the belief that the hospital is a source of danger to the public by direct infection, the fact should become manifest on such occasions as those referred to. They appeal, therefore, to medical men in town and country for detailed information should cases of small-pox come under their notice, which (due regard being had to the known period of incubation) may be reasonably supposed to have originated from infection on the dates and at the places named.

I am, Sir, your obedient servant,

T. ORME DUDFIELD, M.D.,
Medical Officer of Health.

Vestry Hall, Kensington, W., April 21st, 1879.

PARADOXICAL TEMPERATURES.

To the Editor of THE LANCET.

SIR,—Having read in THE LANCET of the 15th ult. Dr. Donkin's valuable article on cases of paradoxical temperatures, I beg you to grant me a few lines for a brief description of a case of typhoid fever, which has just come under my notice, in a girl of five years old. It is, I believe, of value on account of its extraordinarily high temperature.

On the morning of the 9th ult., I was called to see the patient, who was taken ill the previous day, and on putting the thermometer in the axilla I found over 106°, and in the evening 103·8°. Supposing this high temperature to be premonitory of an exanthematic disease, I ordered an expectant treatment. Next morning the temperature was 103·8°, and in the evening 100·6°; in the morning of the 11th it was 100·4°, but two hours after I was summoned to see the girl, whose mother showed me the thermometer with a registration of over 108°. Having observed an unexpectedly high temperature in a child as young and as good-tempered as the present patient, I immediately put a second thermometer in the mouth, and to my surprise still found 108·2°. I nevertheless left the thermometer in the axilla, and after fifteen minutes it fell to 107°, and in two hours after to 104°. On the morning of the 12th it was 102·2°, and in the afternoon 104°. From that date the temperature took the usual typhoid fever type (with the spleen hypertrophic, epistaxis, &c.) until the 18th, when in the evening it was still 104°. However, with an antipyretic treatment and cleanliness, the girl made a good recovery, losing less flesh than would be expected.

The highest temperature known in literature is in a

case cited by Wunderlich of tetanus—44·75° C., and which rose after death to 46·4° C. Dr. O. Weber in his article (Langenbeck's *Archiv*, Bd. i., Heft i., 1851) cites a case of pyæmia in a boy seven years old, with a temperature in the mouth of over 107·6°. Dr. Obernier (*Berl. Klin. Wochenschrift*, 1867) again mentions 107° and 108° in a typhoid fever, and Wunderlich 107·8° and over in a febris recurrens. Wilson Fox, too, in his estimable work "On the Treatment of Hyperpyrexia" (London and New York, 1871), goes as high as 110° in a rheumatic fever; but the case in question being that of a child of five years old, showing at the commencement of the disease, especially in the morning, exacerbations of 107·8°, 108°, and 108·2°, coupled with pertinacity of the fever, without a fatal result, is in my opinion worthy of record.

I remain, Sir, your obedient servant,

STEPHEN KARTULIS, M.D. Berl.

Alexandria (Egypt), April 1, 1879.

THE ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—The discontented condition of the Army Medical Department is very disheartening. We are on the eve of a new warrant, but some of the suggestions for it will, if carried out, be the source of much unpleasantness.

Entrance by nomination and competition will cause a feeling of bitterness, and will tend to divide more than to unite the department. We are all gratified to learn that unification is to be preserved; but if those in authority are desirous of making the medical service of the army attractive they will form us into a corps, give us a distinctive title, and make us one with the men we now command and drill. We shall then begin to feel that we are "somebody's children," and take an interest in our corps and be proud of it. Give us the privileges of the other scientific corps; abolish relative rank, and substitute real military rank and titles. Are we not as deserving of them as the Engineers? Is not a hospital orderly as much entitled to be called a "Royal Surgeon," as the rank and file of another scientific corps are to be called "Royal Engineers"?

I enclose my card; and remain yours truly,

April 21st, 1879. SPES.

*** It is quite new to us to learn that the men of the Corps of Royal Engineers are called "Royal Engineers"; we were, and still are, under the impression that their official designation is "Sappers." Would not the calling a hospital orderly a "Royal Surgeon" be a breach of the Medical Act? It would certainly be absurd. We understand that the Warrant is now in progress at the War Office, but the details are kept strictly confidential. We trust that we shall shortly be able to say something respecting its provisions. Till then we must wait patiently and hopefully.—ED. L.

THE CAMPAIGN IN SOUTH AFRICA FROM A MEDICAL POINT OF VIEW.

(From a Correspondent.)

WITH the memory of the sad disaster to the British forces in Zululand, so recently and so deeply impressed on the nation, I hardly think it an intrusion on your space if, in the following communication, I venture to give your readers as brief a record as possible of more than twenty years' experience of medical work in South-Eastern Africa. Having been connected some fifteen years with the second largest hospital in South Africa, the experience gained cannot fail to have made one familiar with diseases of various kinds, modified by African climate.

I may state that in the Port Elizabeth Provincial Hospital we have about an average of sixty-five in-patients, and our field of observation is widened by a large attendance of out-patients of all shades of colour and of various nationalities. In a well-appointed post-mortem room, conveniently fitted, and away from the main building, there are presented opportunities for the study of South African pathology not to be obtained elsewhere.

The Somerset Hospital, in Cape Town, is larger, and a credit to the Cape; but I am very sorry to write that the late very able and indefatigable surgeon-superintendent, Dr. Wood, has just died on his way home, like many other enthusiastic workers seeking rest, too late. The record of his work at the Somerset Hospital would be of value and interest just now, but I do not know if he has left any materials for its compilation.

My readers must be well posted in details respecting the climate of South Africa; the works of Baines, Livingstone, and others have given them descriptions which are unnecessary to quote. As far as my experience goes, it is a delusion and a snare. I am writing now of S.E. Africa. Here at Port Elizabeth and all along the east coast, from about the end of September to the end of February, south-east winds prevail, blowing sometimes from this quarter a few days together a stiff breeze, impeding communication with the shipping by raising a tumultuous surf on the shore, and driving inland an air loaded with saline moisture most irritating to weak lungs. Then a lull, followed by perhaps a thunderstorm, and the return blast from off the heated continent, which, searching out every nook and cranny, drives the accumulated malaria and stench of an undrained town away to sea. One breathes freely again, nature revives. It may well be called "the Cape doctor"; were it not for this I think life would be impossible.

At the end of the season, what with the south-easters, the moist heat, the mosquitoes, and restless hot nights, humanity generally is pretty well used up, and everyone who "has a liver" is unpleasantly reminded of the fact by a feeble appetite and digestion; and pains in and about that much-abused organ, like "memories of brandies and soda," hang round it still. In contrast to the above, the climate on the south-east seaboard of Africa during the winter is "simply delicious." For days the sun rises and sets without a cloud; the placid ocean lazily laps the yellow sands; the cool air and bright sunshine form a climate unsurpassable in its delicate influence, where, to quote a writer on some part of Arabia, "one can be happy without effort, and gay without motive." If the "specials," now on their way with the force which England has so readily sent to our aid, should fortunately only experience a "South African winter," I have no doubt they will exceed me in their eulogies of the Cape climate; but if the campaign should be prolonged into the summer season, they will tell a different tale; declare it to be "a mistake, and want improving." It is a fact of great importance that the arduous duties of the soldier will have to be undertaken most probably during the clear, cool winter season. I have heard it remarked that "the Ashantee affair" was "a campaign of the doctors." If the present war should happen to be prolonged into the summer, the medical officers will have their work cut out for them.

To come to the pith of the subject, I will divide the probable dangers which the troops will have to meet, from a medical point of view, into the following sections:—

First, and of chief importance, is the question of fevers—bilious remittent and typhoid, as they have presented themselves to my notice, produced or influenced by South African climate. In writing of the bilious remittent type I must for a few moments revert to the change of climate which we have experienced here since about the end of 1863 or 1864. This date marks the close of a series of dry years, which left the whole of South Africa, especially the Karoo and higher districts, blackened by a fierce sun, and dried up by hot winds. Then came a change: after the "years of leanness," which we struggled through, came a series of "years of fatness," with abundant and frequent rains; the whole country covered with a rich vegetation. "The pathless deserts of parched Karoo," where I had seen the game pawing at the roots of the scant bushes for a little sustenance, were now in some parts waving with rich sweet grass, in which oxen, lying down, showed merely their heads and horns, and springboks, &c., were at times quite hidden, except, when startled, they leapt away at your approach.

During this period of drought and high temperature the form of fever which most frequently obtruded itself on my notice here in Port Elizabeth was that which has been termed typhoid, fatal cases presenting all the appearances pathognomonic of that disease. Soon after the break up of the long drought, and simultaneous with the outbreak of

fever, at Mauritius and Cape, and more or less all along the coast line of South Africa, patients presented themselves with symptoms of fever, which were somewhat different from those which we had been accustomed to meet with. One of the earliest cases, and one which gave me a clue to the type of disease with which we had to deal, was the following:—A very fine Kaffir, in robust condition, who was engaged in work on the beach, was admitted into hospital with the following symptoms: Semi-consciousness, great prostration, constipation, yellow staining of the conjunctivæ, vomiting of coffee-ground fluid, suppression of urine. He died rapidly, and the post-mortem examination showed intense engorgement of liver, spleen, and kidneys, with black fluid blood.

Shortly after this, although I cannot recollect any cases so severe in degree, yet the coloured people would come to the hospital with the following symptoms:—A sluggish gait, a look of illness, bright fever-looking eyes, intense headache, and pain in the limbs, total loss of appetite, and sleeplessness; the tongue large, furred and indented with the teeth, was so characteristic that often I had hardly need to question them, but diagnosed acute bilious remittent, and prescribed the usual formula, which will be given further on. This class of patients attended a few times, were relieved, and we saw no more of them. Others, in which the exciting cause had been more active or intense, were admitted. As a rule the disease was not very fatal. At the same time, we had cases in private practice presenting similar symptoms and amenable for the most part to the same treatment. From that time to the present, cases of a like type have frequently come under observation, and have been treated in the following method:—First, a good dose of calomel and soda, followed by a mixture of sulphate of soda and compound rhubarb mixture, and then what I considered our chief remedy, "quinine and senna mixture," of the following formula:—Quinine, three grains; dilute sulphuric acid, six minims; infusion of senna, one ounce, three times a day. After taking this for a few days it was generally found that the senna was too irritating, and the following was substituted:—Quinine, three grains; dilute hydrochloric acid, ten minims; chlorate of potass, ten grains; infusion of gentian, one ounce, three times a day; omitting this, from time to time, as it seemed needful to give a dose of castor oil with tincture of rhubarb, or a dose of compound rhubarb mixture. In this type of disease the majority recovered; but now and then cases would come back, illustrating the old adage that the race is sometimes rather to the tortoise than the hare. The long-continued congestion of all the internal organs, especially the liver and lungs, would manifest itself in abscess in the one, a development of tubercle in the other, and it is this latter mischief which causes a considerable mortality among the natives who have been the subjects of this fever, or in those in whom the hereditary tendency to consumption has been latent. Diet entirely consisted of milk and broth, no particle of solid food, very rarely any alcohol.

(To be continued.)

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—At a quarterly Comitia held on Thursday, the 24th inst., at 5 P.M., the following Members were admitted to the Fellowship of the College:—

Bagshawe, Frederick, M.D. Camb., St. Leonard's.
Bright, George Charles, M.D. Oxf., Cannes, France.
Edis, Arthur Wellesley, M.D. Lond., Wimpole-street.
Gowers, Wm. Richard, M.D. Lond., Queen Anne-street.
Greenfield, Wm. Smith, M.D. Lond., Palace-road, Lambeth.
Irvine, James Pearson, M.D. Lond., Mansfield-street.
Mackenzie, Stephen, M.D. Aberd., Finsbury-square.
Sparks, Edward Isaac, M.B. Oxf., Cannes, France.
Squire, William, M.D. St. And., Orchard-street.
Stevens, Henry, M.D. Lond., Sutton, Surrey.
Taylor, Frederic, M.D. Lond., St. Thomas-street.
Williams, John, M.D. Lond., Harley-street.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the required examination for the diploma, were duly admitted Members of the College at a meeting of the Court of Examiners on the 22nd inst.:—

Bell, T. Arthur, L.R.C.P. Lond., Guernsey.
Botsaler, A. Henry, L.R.C.P. Lond., Clifton, Bristol.
Coles, D. Alexander, L.S.A., Plymouth.
Cowburn, G. Herbert, Milner-street.
Crooke, G. Frederick, L.S.A., Gainsborough.
Duncan, W. Archdeckne, L.S.A., Manchester.
Gibbs, A. N. Godby, Bristol.
Hallam, W. Henry, Newcastle, Staffordshire.
Harvey, Alfred, L.S.A., Birmingham.
Hebb, F. Theodore, Brighton.
Hill, C. Birnie, Haslar Hospital.
Houlgrave, Augustine, Liverpool.
James, T. James, L.S.A., Llandovery.
Jones, E. Azer, L.R.C.P. Edin., Kingsland-road.
Mennell, Zebulon, L.S.A., Shepherd's-bush.
Money, Angel, Pemberton-road.
Oppenheim, Michael, Woburn-place.
Sainsbury, Harrington, Clapham.
Scowcroft, Walter, Bolton.
Sheard, Charles, M.B. Toronto, Toronto.
Smith, G. Munro, Clifton, Bristol.
Suckling, C. William, L.S.A., Birmingham.
Tabb, J. Frederic, L.S.A., Redruth.
Tonks, Joseph, Willenhall.
Ware, J. W. Langston, Barnstaple.
Williamson, R. Isherwood, L.R.C.P. Lond., Wimbledon.
Winter, W. H. Trimnell, L.K.Q.C.P. Irel., Torquay.
Wolrige, H. E. Rhodes, Southsea.

The following gentlemen passed on the 23rd inst.:—

Benthall, Winfred, Sherborne.
Branson, C. L. Smyth, Craven-hill-gardens.
Damant, A. Johnson, Cowes, Isle of Wight.
Gravely, J. Gabbitas, Cowfold, Sussex.
Hervey, G. Henry, L.S.A., Wivenhoe, Essex.
Mac Donald, G. Matheson, Bournemouth.
Morgan, A. Kinsey, L.S.A., Newport, Monmouthshire.
Mudge, James, Hayle, Cornwall.
Pattison, E. Seton, Walham-grove.
Pearless, E. Montague, L.S.A., East Grinstead.
Redmayne, Hugh, L.S.A., Ambleside.
Robinson, G. Somerville, Claverton-terrace.
Rich, A. Creswell, Liverpool.
Roper, G. Arthur, L.S.A., Harston, Cambridge.
Savill, T. Dixon, Brixton-road.
Stathers, G. Nicholson, Tredegar, Monmouthshire.
Sutton, G. William, L.S.A., Reading.
Vandrey, Edmund, Manchester.
Vlieland, C. James, L.S.A., Highgate.
Weakley, Arthur, Cape of Good Hope.

The following gentlemen passed the Primary Examination in Anatomy and Physiology at a meeting of the Board of Examiners on the 17th inst.:—

Thomas H. Pounds, John Smith, George H. Butler, and William F. Walker, Charing-cross Hospital; J. A. P. Price, Edwin L. Adeney, Edmund S. Dashwood, John H. Champ, and Lanriston E. Shaw, Guy's Hospital; James S. M'Donagh, Charles Downing, and Paul F. Moline, University College; Charles St. Daniel, Fredk. J. Short, Charles L. H. Tripp, and William E. Hoyle, St. Bartholomew's Hospital; Elliot Daunt, St. George's Hospital; Alfred T. Rimell and Horatio S. R. Sparrow, King's College; Francis H. Unsworth, Wm. B. Baker, and Francis H. V. Voss, London Hospital; Asher Gross, Leeds; John D. E. Mortimer, Westminster Hospital; Edwin A. Fall, University College.

Of the 213 candidates examined during the past fortnight, 45 failed to reach the required standard, and were referred for three, and 7 candidates for six, months' further anatomical and physiological study.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on April 17th:—

Colborne, William Wriothesley, Hildrop-crescent.
Dalton, Norman, George Town, Demerara.
Evans, Theodore Charles, Castle-hill, Ealing.
Moorhead, Robert Lowry, Nottingham.
Pearless, Edward Montague, East Grinstead.
Pettinger, John Henry, Manchester.
Richardson, J. Humphry Howard, Sparbrook, Worcester.

The following gentleman on the same day passed the Primary Professional Examination:—

Hooley, Arthur, Charing-cross Hospital.

COLLEGE OF PHYSICIANS IN IRELAND.—At the April examinations the following obtained the licences in Medicine and Midwifery:—

MEDICINE.—James Robert Barton, Henry Lewis Battersby, Robert Howard, William A. Mahony, Harry Molony, John William Mullen, Andrew Dillon Peyton, Charles Rorke, Henry Arthur Wall, Robert Warnock.

MIDWIFERY.—Henry Lewis Battersby, Robert Howard, William A. Mahony, John William Mullen, Charles Rorke.

THE Dundalk Guardians have reduced the salaries of their medical officers by 7½ per cent.

DR. D. LANDRE, of Limerick, was last week presented with an illuminated address by the Foresters' Society in that town.

THE Guardians of the Woodbridge Union, at their meeting on April 17th, raised the salary of Mr. Green, medical officer of the Welford district, from £68 to £80 per annum.

MR. J. COMYNS LEACH, of Sturminster Newton, and Dr. Orpen, of Chelmsford, have received the Government grant for efficient vaccination.

THE Sanitary Inspectors of Essex and the neighbouring counties have held a meeting at Chelmsford. Papers were read on hospital accommodation and water supply. It was suggested that a fund should be organised for the benefit of the widows and orphans of sanitary inspectors.

THERE were 1757 deaths registered in London last week, representing an annual rate of 25·3 per 1000. To the seven principal zymotic diseases 208 deaths were referred, while the number of fatal cases of diseases of the chest and air-passages was 505, against 575 in the week ending April 12th.

THE Merionethshire justices have not hitherto appointed a public analyst; and upon a letter from the Local Government Board upon the subject being read at the last quarter session at Dolgelly, considerable doubt appeared to be entertained as to the expediency of doing so, it being argued that the county of Carnarvon was doing away with such an officer, and appointing local chemists to do the work when necessary.

HEALTH OF IRELAND IN 1878.—The births numbered 134,370, or 25·1 per 1000, being under the average for the past ten years; and the deaths 99,839, or at the rate of 18·7 per 1000, being 1·5 per 1000 over the average rate for the ten years preceding. A decrease of 6583 appears to have taken place in the population in the twelvemonth. During the year 11,050 deaths were caused by the eight principal zymotic diseases.

BEQUESTS TO MEDICAL CHARITIES.—Mrs. Sarah Cohen, of Park-lane, bequeathed £100 Three per Cent. Consols, each, to the Jewish Ladies' Lying-in Charity, the London Hospital, the Metropolitan Free Hospital, the Jews' Hospital at Norwood, and Lady Montefiore's Convalescent Home at Norwood. The Dowager Marchioness of Exeter bequeathed £100 each to the Stamford, Rutland, and General Infirmary, and to Lord Burghley's Infirmary at Stamford.

Medical Appointments.

CANN, T. M., M.R.C.S.E. & L.M., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Newhaven, Sussex.

CLOUSTON, T. S., M.D., has been appointed Lecturer on Mental Diseases at the University of Edinburgh.

COPLEY, W. H., M.R.C.S.E., has been appointed House-Surgeon to University College Hospital, vice Bond, appointed Resident Medical Officer to the St. Pancras and Northern Dispensary.

CRESWELL, W. G., L.R.C.P.Ed., L.R.C.S.Ed. & L.M., L.S.A.L., has been appointed Medical Officer for the No. 5 District of the Aston Union, vice Sparrow, resigned.

CUMING, J., M.D., F.K.Q.C.P.I., has been appointed Examiner in Medicine at the Queen's University in Ireland, vice Bastian, resigned.

CURTIS, A., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Staines Urban Sanitary District, at £25 per annum, till Christmas, 1880.

DAVISON, A., L.R.C.S.Ed., has been reappointed Medical Officer of Health for the Cramlington Urban Sanitary District, Northumberland, at £30 per annum for three years.

DICKINSON, E. H., M.D., M.R.C.P.L., has been appointed Medical Officer to the Liverpool Magdalen Institution, vice Bailey, resigned.

DUNN, W. A., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the Millom Ironworks Sick and Accident Club, vice Spark, deceased.

FENNELL, D., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer for the Dudley North District of the Dudley Union, vice Higgs, resigned.

FRASER, J., M.D., has been appointed Certifying Factory Surgeon for the District of Wolverhampton, vice Collins.

HEAD, R. T., L.R.C.P.L., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Balsham District of the Linton Union vice Prince, resigned.

HEATH, H. T., L.R.C.P.Ed., L.R.C.S.I., L.A.H.D., has been appointed a Medical Officer to the Mansfield-Woodhouse District Hospital.

HOBSON, L. J., M.B., B.S., F.R.C.S.E., has been appointed Acting Medical Officer to the Royal Northern Sea-bathing Infirmary, Scarborough, vice Lycett, resigned.

HUTCHINSON, T. S., L.R.C.P.Ed., M.R.C.S.E., has been appointed Certifying Factory Surgeon for the District of Sittingbourne, vice Ray, deceased.

MCCRACKEN, J., M.B., C.M., has been appointed Assistant Medical Officer to the Glamorganshire Lunatic Asylum, at Bridgend, vice Snell.

MOORE, J. B. G. G., L.R.C.P.I., M.R.C.P.Ed., has been appointed Medical Officer and Public Vaccinator for the Walthamstow District of the West Ham Union, vice Yeates, resigned.

PEARSE, T. F., M.D., L.R.C.P.I., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the No. 1 District of the Ongar Union, Essex, vice Moore, resigned.

RANDOLPH, C., M.R.C.S.E., L.R.C.P.Ed., has been reappointed Medical Officer of Health for the Wivelsiscombe Urban Sanitary District, at £10 per annum for two years from 25th March, 1879.

SHEPARD, A. J., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Usk Urban Sanitary District, Monmouthshire. (Salary not fixed.)

SNELL, G., M.R.C.S.E., L.R.C.P.Ed., has been appointed an Assistant Medical Officer, British Guiana.

VINCENT, H. B., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of East Dereham, Norfolk.

WICKHAM, H., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Rufford, Lancashire.

WISE, A. T. T., M.D., L.R.C.P.L., M.R.C.S.E., has been appointed a Visiting Physician to the Margaret-street Infirmary for Consumption and Diseases of the Throat.

WOOD, C., M.R.C.S.E., L.S.A.L., has been appointed Junior Resident Medical Officer to the General Hospital and Dispensary for Sick Children, Pendlebury, Manchester.

Births, Marriages, and Deaths.

BIRTHS.

ADAMS.—On the 20th inst., at West Town, near Bristol, the wife of George Edward D'Arcy Adams, M.D., of a son.

ADY.—On the 18th inst., at 23, Sandyford-place, Glasgow, the wife of James Charles Ady, L.R.C.P.Ed., L.R.C.S.Ed., of a son.

BARTLETT.—On the 19th inst., at Sydney-place, Onslow-square, the wife of James Prime Bartlett, M.R.C.S.E., of a daughter.

KISCH.—On the 17th inst., at Portsdown-road, the wife of Albert Kisch, M.R.C.S.E., of a son.

MACNAIR.—On the 14th inst., at Ferry-road, Leith, the wife of Robert MacNair, M.D., of a son.

MARTIN.—On the 18th inst., at Abingdon, the wife of Paulin Martin, M.R.C.S.E., of a daughter.

TRAVERS.—On the 16th inst., at St. Leonard's-on-Sea, the wife of Othe Robert Travers, M.R.C.S.E., of a son.

MARRIAGES.

DABBS—PEET.—On the 19th inst., at Bonchurch, Isle of Wight, by the Rev. G. W. Southouse, M.A., assisted by the Rev. C. I. Burland, M.A., George Henry Requé Dabbs, M.D., to Nina Laura, youngest daughter of Herbert Giraud, Esq., M.D., Surgeon-Major H.M. Indian Army, and widow of John Peet, M.D., Surgeon-Major H.M. Bombay Army.

GALLOWAY—RAMSEY.—On the 17th inst., at Eglinton-street, Beith, Scotland, by the Rev. James Martin, Walter Galloway, L.R.C.P., Surgeon, of Eighton Banks, Gateshead-on-Tyne, to Janet Kerr, daughter of the late William Ramsey, Esq., Writer and Bank Agent. No cards.

LAWRENCE—HUDSON.—On the 4th ult., by special licence, at Mossel Bay, Cape of Good Hope, by the Rev. W. F. Taylor, Thomas George Lawrence, L.R.C.P.L., M.R.C.S.E., of George Town, to Saldie Maria, eldest daughter of the Hon. J. F. Hudson, of Mossel Bay.

PARNELL—OLDFIELD.—On the 17th inst., at Christ Church, Forest-hill, London, by the Rev. T. C. D. Morse, Vicar, assisted by the Rev. William Calvert (stepfather of the bride) and by the Rev. Frank Parnell, Rector of Oxtead (brother of the bridegroom), Gerald Cecey Parnell, M.R.C.S.E., L.S.A.L., of St. Norman's, Forest-hill, to Mary Emily Langston, only daughter of the late William Langston Oldfield, Esq.

PICKETT—CHAPLIN.—On the 16th inst., at Christ Church, Forest-hill, by the Rev. J. Parry, M.A., Vicar of St. Luke's, Wolverhampton, Jacob Pickett, M.D., of 26, Colville-square, W., to Marie A. H., second daughter of the late R. J. Chaplin, of Beechwood, Deal, Kent. At home after May 25th.

DEATHS.

BOWNESS.—On the 4th inst., at Pulton-le-Fylde, Robert Harrison Bowness, M.D., aged 63.

BRADY.—On the 21st inst., at Rathmines-road, Dublin, Patrick Brady, L.A.H.D.

HARRIS.—In February, at Maryborough, Queensland, after a long period of ill-health, William Harris, F.R.C.S., formerly Assistant-Surgeon 88th Regiment (Crimean Medal and Order of Medjidie), and Surgeon, House of Correction, Wandsworth, aged 47.

IRELAND.—On the 17th inst., at Hume-street, Dublin, Arthur J. Ireland, M.D., retired Staff-Surgeon R.N., aged 45.

JAMESON.—On the 14th inst., at Caistor, Lincolnshire, William Hugh Jameson, M.D., Surgeon-Major, Army Medical Department, aged 40.

LOW.—On the 16th inst., at Le Coin, St Brelade's, Jersey, Alexander Low, M.D.

MARSH.—On the 15th inst., at Marshfield, Gloucestershire, William Marsh, M.R.C.S.E., aged 71.

MARTYN.—On the 11th inst., at Martock, Richard Westcott Martyn, M.R.C.S.E., aged 86.

NEWMAN.—On the 16th inst., at Grouville, Jersey, William John Newman, M.R.C.S.E., aged 47.

PRICE.—On the 14th inst., at Deptford, Allin Foord Price, M.D., aged 75.

RHODES.—On the 16th inst., at New Cleo, Grimsby, Clement Rhodes, L.R.C.P.Ed., aged 25.

WILLAN.—On the 13th inst., at Worcester, Reginald M. Willan, M.R.C.S.E.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, April 24th, 1879.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Apr. 18	29·94	W.	39	42	68	47	34	0·08	Cloudy
,, 19	29·94	S.E.	40	43	91	54	35	..	Hazy
,, 20	29·48	S.W.	44	44	82	56	40	0·31	Raining
,, 21	29·46	E.	39	41	54	46	39	0·11	Overcast
,, 22	29·62	N.W.	39	41	60	51	35	..	Overcast
,, 23	29·45	E.	47	48	66	54	39	0·04	Raining
,, 24	29·72	W.	45	47	..	56	43	0·13	Overcast

Notes, Short Comments, and Answers to Correspondents.

EPIDEMIC DISEASES IN AUSTRALASIA.

WE have lately received several interesting but very disconnected pamphlets and letters as to the prevalence of typhoid fever at Melbourne. It is next to impossible to analyse them satisfactorily so as to come to a fair conclusion as to the actual condition of things. But in this city, as in Cape Town and other colonial capitals, there is great neglect of all the first principles of sanitary science. Foul water is the rule, and street scavenging is almost unknown. Hence it cannot be wondered at that typhoid prevails, and is indeed almost endemic. The mortality seems to have increased steadily year by year; for a glance at the tables now before us shows that in 1869 there were 116 deaths from enteric fever, whereas in the last year no less than 307 deaths occurred from the same disease. There surely must be something rotten in the state of Melbourne as to drainage and water-supply, and the sanitary rulers in that flourishing colonial capital should at once look to it.

Edb.—A registered practitioner can recover moneys due to him as such, irrespective of the qualification upon which he is registered. The legal status in court rests on the fact of registration under the Medical Act of 1858, not on the qualification registered.

Mr. H. R. Powell.—The fee cannot be claimed under the circumstances

ALBUMINURIA AND RETINITIS.

To the Editor of THE LANCET.

SIR,—The case of albuminuria with retinitis mentioned by Mr. Oxley, in your journal of March 29th, leads me to refer to one which may not be without interest to some of your readers.

On November 26th of last year I was called to see a woman, aged forty, pregnant for the eighth time. She had previously had three children at full time, living, the rest dead, generally at seven or eight months. Had after one confinement suffered from "blood-poisoning," and at another from post-partum hæmorrhage, "to such an extent as to become blind for a fortnight." When I saw her she complained of intense pain in the epigastric region, which had been increasing for some days, and blindness to such an extent that she could only distinguish a person as a dark object between her and the light. The latter symptom had been observed for a fortnight, and gradually increased. Her pulse, hardly perceptible, was 140, irregular and intermittent. Marks of effused blood were visible under the skin of both arms and legs. The urine was scanty, smoky, containing half albumen, but no casts. She dated her pregnancy from the second or third week in April. The symptoms grew worse, and she blindness complete till the 29th of November, when she was confined of a dead child, with no complications except a slightly adherent placenta. She did well in every respect, and at the end of six weeks could see about as well as ever; the pulse had got down to 100, improved in character; and the urine, which was healthy in appearance and amount, showed only a trace of albumen. But on the 25th of January of this year, about the time when she should have been confined if she had gone to her full time, or at any rate a few days after, she was found on the floor in an epileptic fit. I saw her before she had come out of the fit, and there could be no doubt of its character. She has had no return of the seizure, nor had she ever previously had one, and there did not seem any reason for it. She is now quite recovered, except that the heart still shows signs of weakness. No examination of the retinæ was was made in this case.

Whilst writing on a subject so nearly allied to puerperal convulsions, I may remark that, in the letters which have touched upon this matter recently in THE LANCET, no mention has been made of the subcutaneous injection of ergot. This is of great use before the os uteri has dilated sufficiently to introduce the smaller of Barnes's bags, and especially if nothing can be got into the stomach. I feel sure, in a case I had recently, which in other respects did not differ from an ordinary case of puerperal convulsions, that the successful result was due to bringing on the labour quickly in this manner. I am, Sir, yours &c.,

Sale, April 14th, 1879. W. ALFRED RENSHAW, M.D.

PATHOLOGICAL SPECIMENS.

DR. SYLVESTER MARSH, of St. Helens (whose work on Section Cutting has recently been noticed in these columns) sends us a series of well-mounted microscopical preparations, embracing a great variety of the more typical pathological changes in organs. The sections are mostly admirably cut; and if we might venture upon any criticism, it would be, in the first place, that the staining reagent has been carmine. Only one of the specimens before us is stained with logwood, which, as a rule, is the preferable reagent, the carmine-staining being too uniform. In the second place, it might be preferred (but simply as a matter of taste) that the "mounts" should be less elaborate and gandy. These, however, are minor matters, and do not detract from the value of the specimens as excellent examples of the microscopist's skill.

S. S. should apply to the authorities of the University.

SANITARY NEGLECT IN HOLBORN.

To the Editor of THE LANCET.

SIR,—The medical officer of health of the Holborn district, in his letter contradicting my statements, published under the above heading, has misinterpreted both the spirit in which I wrote and the facts of the case. The difficulties with which medical officers have to contend are familiar to me; and, far from wishing to attack, I, on the contrary, thought to strengthen his hands by denouncing a condition of affairs which he may not have sufficient power to remove. Now, with regard to the facts of the case, I never stated that the two houses in Queen's Head-court were dirty, or implied that the man who fumigated one of the rooms died of fever. I was, at the time, perfectly well aware that he died of cancer, and that the houses were condemned under Torrens's Act. But I was also aware that hundreds of houses have been condemned years ago, and are yet standing, much to the injury of the interests and the health of their inhabitants. The grievance rests in the fact that, though enteric fever has obtained a firm hold on these two houses, no special measures were taken to discover its origin and prevent its recurrence. The drain-pipes may be only a few years old, and yet imperfect. There is precisely at this moment, and in this very district, another case of enteric fever in an entirely new house. Also the drain, whether old or new, is not so perfect but that the most unpleasant smells arise within the walls of one of the two houses; at least, if faith can be reposed in the bitter complaints of an inhabitant, who had spent the whole morning, she declared, in throwing buckets of water down the drain "to drive the smell away." Then we are told that the cisterns are entirely unconnected with the closets; but surely this confirms my assertion that there are no means of flushing the closets; at the same time the water-supply was, I should imagine, near enough to accumulations of dust and to the open closet-doors to absorb injurious emanations.

With regard to the house in Princes-street, which I described as an example of filth, I maintain that my account was perfectly accurate. But I have since returned to this place to make further inquiries, and find that the closet has been blocked four times since my first visit. There must be something wrong in a drain so liable to be choked. The inhabitants declare that they were never "turned out, and the house done up and painted both inside and outside," though this was done to the house next door. After ascertaining these facts, I proceeded to measure the floor which I qualified as overcrowded. I found the front room, if I may trust a somewhat rough measurement, rendered difficult by the presence of furniture, but sufficiently accurate for sanitary purposes, contained 1426 cubic feet, and, as it is inhabited by six persons, this gives 237 feet to each. The back room is not well ventilated, and measured about 700 cubic feet, or only 175 cubic feet for each of its four occupants. When we consider that in a common lodging-house 300 cubic feet per person are required on the condition that the windows should be kept open and the dormitory uninhabited all day, while these rooms are thronged by the children both at night and during the day, I think the overcrowding will be admitted.

In conclusion, I beg to repeat that, in giving publicity to these grievances, my only object is to assist the medical officer of health in the accomplishment of his most onerous and useful duties.

I am, Sir,

April, 1879. YOUR SANITARY COMMISSIONER.

Mr. G. M. Evans.—We agree with our correspondent that if such fairs are to be held, they should be held in some open and outside place where they may do less harm than is inevitable in the centre of a town; but the nuisance is one for local exposure and protest.

J. S.—A physician's fee is usually two guineas at a first consultation, and one guinea on each subsequent occasion in the treatment of the case.

RETURN OF CARTES-DE-VISITE.

To the Editor of THE LANCET.

SIR,—In your number for March 8th there was an advertisement from "Delta," 31, Sutton-street, Brook-hill, Sheffield, seeking the services of an assistant, and requesting applicants to send their cartes-de-visite, stating such should be returned. May I ask, through the medium of your journal, if "Delta" can act as a gentleman by retaining our photos. in such a manner? I unhesitatingly say it is not the conduct of a gentleman, but the reverse. Yours obediently,

Islington, N., April 22nd, 1879. J. FOLEY-EVANS.

PRACTICE AT THE ANTIPODES.

MR. EMMERSON, on the one hand, and "M.D." (who, by the way, had better not have sheltered himself under a *nom de plume*) have both had their say as to the facilities for practice in Australasia, and we cannot afford space for another letter which "M.D." has sent us. He says, however, that about 100 medical students are now on the books of the Melbourne University, and that many Australians (how many is not stated) are pursuing their studies in London; that the average fee for long journeys is 10*s.* 6*d.* per mile *one way*, while in one most prosperous colony of Australasia not more than a fourth of that amount is paid. This constitutes the pith of "M.D.'s" second rejoinder; and so those of our cloth who desire to practise in these colonies may, as we think, go out with a prospect of fair success, with also, as in England, some definite amount of competition. There is no royal road to success, even in Australasia.

Mr. William Fennelly should address his inquiry to the secretary to the examiners.

SANITARY STATE OF PENZANCE.

To the Editor of THE LANCET.

SIR,—I am directed by the Sanitary Committee of this borough to contradict certain statements that appeared in a letter, signed "G. R.," in your issue of the 12th inst.

Your correspondent states, on what he calls "undoubted authority," that "at the present time there are nearly fifty cases of enteric fever under treatment in the town," and that "nine deaths have occurred in one family circle"!

The facts are, that since the 13th September, when the first case occurred (a period of seven months), there have been only forty-nine cases altogether, and in reference to eleven of these it is reported as doubtful whether they were cases of typhoid or not. Out of the forty-nine, eight have died from the fever (but not more than one in any house or "family circle"); one has died from other causes, and the remainder have all recovered or are convalescent. In fact, it has been ascertained by inquiry made of every medical gentleman in the town that there is not now a single case under treatment for the fever.

The statement in the letter as to the "apathy" of the authorities is equally untrue. Every case has been closely watched, and the probable causes of it inquired into. The first case, there is no doubt, was imported from a neighbouring town.

In few towns of the size of Penzance (about 11,000 inhabitants) has there been so much done for sanitary objects. Immediately after the passing of the Public Health Act, 1848, improved water-supply was laid on, and the town thoroughly sewered on the then (as *now*, we believe) most approved system, and in these works alone no less a sum than about £40,000 has been expended. In fact, no labour or expense has been spared to make the town thoroughly healthy, and, so far as preventable disease is concerned, it cannot be said that we have, on the whole, been unsuccessful.

It is, of course, somewhat disappointing that, after so large an expenditure, we should have been subjected to this outbreak, although in a mild form. Measures have, however, been taken to search out and as far as possible remove the causes, which are in most cases believed to be local—i. e., belonging to the separate houses affected; and, as no fresh case has occurred since the 25th March, it may be hoped that the efforts of the Authority and their officers have not been in vain.

The Committee have thought it right to send you this reply to meet any unfounded apprehensions as to the state of the town which may have arisen from "G. R.'s" letter; but as the town has been subject to similar aspersions from anonymous correspondents in your columns on former occasions, and such letters are calculated to do a great deal of harm, they think it is but due to the town that they should be furnished with the name of your correspondent on this occasion.

I am, Sir, your obedient servant,

Penzance, April 18th, 1879. THOS. CORNISH, Town Clerk.

Mr. M. Culpin.—The exact facts are not very clearly stated in the correspondence sent us. Mr. M. seems to have erred in not sending word as to the time for a consultation, and in calling before doing so; but his clearly expressed wish to have the sanction of our correspondent, or to meet him in consultation, seems to show that the error was not intentional.

Pilula.—We cannot name a particular institution. Our correspondent, being a member of the profession, will see that it would be unfair to do so.

A Subscriber should state the facts to the Registrar, and also to the Secretary of the Medical Defence Association.

MEDICAL MEN AND THE CLERGY.

To the Editor of THE LANCET.

SIR,—Would any of your readers be good enough to inform me, through the medium of your journal, whether in watering-places it is customary on the part of medical men to attend the resident clergy (of all denominations) and their families free of charge, as having lately started practice in such a place, and having attended one of the clergy, in due course of time I sent in my account, and was told by my patient that, in his experience of forty years, he had never before paid a doctor's bill.

I am, Sir, yours &c.,

April 12th, 1879. W. E. P.

HYGEIA IN EGYPT.

THE *Egyptian News-Letter* gives us some information concerning the action of the Egyptian sanitary authorities. On the 1st of April they decreed that all ships coming from Turkey, the Black Sea, and the Sea of Azof must undergo a quarantine of three days. According to later advices this decision has, however, been rescinded. It is more satisfactory to learn that the sanitary authorities have at last put an end to the scandalous practice of removing dead bodies in public vehicles. We are not surprised that some perplexity should be manifested in Egypt over the vexed question of quarantine; but in the elementary matter of the removal of the dead, there can be no doubt as to the proper course to adopt.

Mr. Fred. Manby.—The facts are very bad, and should be laid before the Local Government Board.

MR. DILLWYN'S LUNACY LAW AMENDMENT BILL.

To the Editor of THE LANCET.

SIR,—Not having yet had an opportunity of reading Mr. Dillwyn's Lunacy Law Amendment Bill, I refrain from expressing a positive opinion upon it. Judging, however, from the brief *résumé* of its provisions in your leading article of this day, I am inclined to think that the part of it relating to the conversion of private asylums is one which private asylums proprietors will not only not resist, but will even warmly welcome. No doubt proprietors would object to see their capital confiscated, their occupation withdrawn, and themselves plunged into poverty. But any just scheme of alienation or conversion will, if they feel as I do, meet with their cordial acquiescence. To live under unjust suspicions and a continued torrent of false accusations is calculated to make life odious. I, for one, should be glad enough to see my way out of a position involving intense worry, anxiety, and mental strain; one which is destructive of domestic quietude and comfort; one which is a bar to social enjoyment, and is detrimental in various ways to one's children; one, finally, which reaps distrust as its reward, and is, it would seem, in popular estimation about as hateful as a hangman's.

It has been loudly and widely stated that flagrant abuses exist. If so, what are they, and where are they? It is incumbent on our accusers to state the cases. But no one states them. There are no cases. There is nothing but suspicion and vague general charges. Partisan journals make or admit hostile *ex-parte* statements without giving the other side of the case the smallest iota of consideration. Newspapers seize hold of facts concerning public asylums, and found thereon bitter attacks upon private asylums, as was done in reference to the well-known case of Peter Chance, who, it happens, was not in a private asylum at all, but in a county asylum.

Mr. Dillwyn got his Select Committee in 1876 with the intention of abolishing licensed houses. An enormous mass of evidence, filling 582 pages of a folio Blue-book, having been collected, the result is that private asylums come out of the ordeal unscathed. The Committee report that "allegations of *mala fides* or of serious abuses were not substantiated." Mr. Dillwyn may well exclaim to his own Committee, "I took thee to curse mine enemies, and behold thou hast blest them altogether." It has always been the case that private asylums have come out from any investigation better than public ones. It was so in 1815, when the worst abuses were found at Bethlem Hospital and at the York Asylum, whereas in a number of private houses great kindness and humane treatment were shown to exist. So likewise, in the Report of 1844, the worst case is that of the public asylum at Haverfordwest, with regard to which the Commissioners speak of "the parties amenable for the great and cruel abuses existing in this asylum."[1] On the other hand, in the same Report the Commissioners mention many things to the credit of private houses, saying in one place: "We have seen many instances of great liberality on the part of the proprietors of licensed houses in maintaining their inmates for many years as private patients at considerable expense, with little and in some cases no prospect of reimbursement."[2]

Notwithstanding this which I now state, and which I could further substantiate by quotations too copious to be inserted here, there remains an inveterate prejudice against private asylums—a prejudice which is, I believe, the child of ignorance. It is a prejudice which seems not likely to die out, and therefore I entirely agree with those who desire that private asylums should, on fair terms, be abolished. It will probably not contribute to the benefit or happiness of the insane; but the change must be wrought in order to establish confidence, without which it seems to me no institution can in the long run work well. With these views, then, I advise my fellow-proprietors to support that part of Mr. Dillwyn's Bill which proposes to convert private into public asylums, providing the details of the measure prove on examination to be such as will affect the change on just and fair conditions. This is all I ask, except just one thing more—namely, that the change shall not be made on false pretexts, on allegations which are unsubstantiated, and as I believe cannot be established; but that it shall be made on its real ground, the distrust and suspicion with which the public mind is afflicted.

I am, Sir, yours &c.,

April 19th, 1879. G. F. BODINGTON.

*** This letter may be taken as a sample of the expressions of opinion elicited from proprietors of private asylums generally, by our remarks. We would suggest a combined representation to the Government.—ED. L.

[1] Report, 1844, page 51. [2] Ibid., page 76.

SANITARY STATISTICS OF THE UNITED STATES.

WE continue to receive the weekly reports by Dr. Woodworth, Surgeon-General to the Marine Hospital Service of the United States, and have now before us those for the month of March. From the notes appended, yellow fever seems to have entirely disappeared, and the following figures show that in the chief cities the normal death-rate was obtained:—New York, 30·6 per 1000; Philadelphia, 16·7; Brooklyn, 19·16; Chicago, 15·6; Boston, 21; Baltimore, 21; Cleveland, 16·4; New Orleans, 29·8; Montreal, 31; San Francisco, 14·4 per 1000 of population, &c. Dr. Woodworth has compiled some notes as to the plague, and gives a very good *résumé* of its progress in China and Central Asia during the last four or five years. We must again record our regret that the system of collecting cosmopolitan particulars as to health is not international; for its practical value to the mercantile marine community, and especially to port sanitary officers, cannot be exaggerated.

Analysis.—Francis's Practical Examples in Quantitative Analysis, published by Lewis; Parkes's Practical Hygiene, fifth edition.

CATTLE PLAGUE IN AFGHAN.

Au Rédacteur du LANCET.

MONSIEUR,—Je viens de lire dans le *Galignani's Messenger* du 9 avril, que le *Standard* a reçu de son correspondant à Rawul Pindée, une dépêche d'après laquelle "la peste bovine (cattle plague) qui depuis quelques temps a exercé de serieux ravages dans les troupeaux de bœufs de l'armée anglaise opérant dans l'Afghanistan; vient de prendre subitement une telle gravité que l'approvisionnement de l'armée est sérieusement menacée...."

Me plaçant à l'unique point de vue de l'alimentation des soldats, qu'il me soit permi de déclarer que l'on peut manger sans crainte, sans aucun danger pour la santé, la chair des animaux affecté de la *peste bovine*. Pour formuler cette affirmation, je me fonde sur un grand nombre d'observations que j'ai receuillies depuis longtemps, et surtout, sur les expériences que j'ai faites moi-même, ainsi:—

A Paris, du 23 fevrier au 8 mars, 1871, après le siège, la peste bovine existait parmi les bœufs et les vaches réunis à l'abattoir de la Villette pour l'alimentation publique; beaucoup de ces animaux, atteints de la maladie, ont été abattus pour la boucherie; aucun accident n'a été signalé parmi les consommateurs. De mon côté, pendant quinze à vingt jours, je suis allé à l'abattoir, prendre de la chair des animaux *morts de la peste*. J'en ai mangé en bouillon, en bouilli, en roti, en daube, &c., pendant tout ce temps, sans que j'en ressentisse la moindre indisposition. De plus j'ai invité plusieurs fois des amis, des vétérinaires notamment, qui ont également mangé impunément de cette viande. Voulant pousser plus loin encore ces expériences, j'ai mangé de la chair *crue*, afin de rassurer les personnes qui auraient pu avoir des inquiétudes en apprenant que certains animaux de boucherie étaient atteints de la peste.

Les soldats de l'armée de l'Afghanistan peuvent donc se nourrir de la chair des bœufs affectés de la peste. Il n'y a aucun danger à manger même les animaux morts; mais pour divers motifs, il est préférable de prescrire l'abattage aux premiers symptômes de la maladie. En Crimée, nous nous laissions avoir faine, tandis qu'on laissait perdre beaucoup de chevaux et de bœufs malades. Plus experimenté qu'a cette époque, j'éngage aujourd'hui nos frères d'armes de l'Angleterre à faire usage des bœufs atteints de la maladie dont il s'agit; ils s'en trouveront parfaitement bien; j'en réponds devant Dieu et devant les hommes.

E. DECROIX,
Ex-Vétérinaire en Chef de l'Armée, Fondateur du Comité de la Viande de Cheval, et de la Société contre l'Abus du Tabac.

Rue de Champagny, Paris, 11 avril, 1879.

F. W.—In nearly all good mail steamship lines the surgeon takes one vice-chair and the purser the other, the captain taking the head of the centre table in the saloon. It is considered, and as we think rightly, that the navigating officers should have their own quiet mess, for it is impossible that they can attend to their duties if compelled to dress for dinner, and to involve themselves in those pleasant but perpetual pieces of fun &c. that enliven the society of a mixed clique on board-ship. The Cunard line is so deservedly well known in all other respects that we can hardly think it places its doctor otherwise than in a gentlemanly position, ashore or afloat.

M.R.C.P.E. &c.—The certifying factory surgeons discharge the duty specified.

J. Borrasso.—It is difficult to see how an institution of the class described could be conducted.

HOUSE-SURGEONS' GRATUITOUS ATTENDANCE IN COURTS.

To the Editor of THE LANCET.

SIR,—When house-surgeon at the London Hospital twenty years since, my custom was, after giving evidence in a court of law, to write to the Home Secretary, soliciting that a fee might be paid me. In no one instance did I meet with a refusal.

I remain, Sir, yours &c.,
Folkestone, April 19th, 1879. JOHN BEADNELL GILL, M.D.

MEDICAL PRACTITIONERS IN BERKHAMPSTEAD.

IN 1842 there were seven resident medical practitioners at Great Berkhampstead, though the population of the town was under 3000. At the present time the population is estimated at considerably over 4000, and yet there are now only three resident practitioners. We fail to see, however, that this is a "conclusive proof" of the healthiness of the district, or, as suggested in a local paper, a good reason for refusing sanction to a sewage scheme.

Mr. J. Wehre-Crozhur.—Humphry's Human Skeleton and Henle's Handbuch der Anatomie des Menschen contain very full and accurate descriptions.

N. W.—We think not.

Medicus.—All the Medical Bills contemplate giving power to the Medical Council to recognise foreign degrees of a respectable character.

Delta will find the information he requires in our Students' Number, published in September last.

TINCTURE OF CHINCHONA AS A REMEDY FOR DRUNKENNESS.

To the Editor of THE LANCET.

SIR,—"Parochial Medical Officer" in your issue of to-day asks if any of his professional brethren have tried a plan for the cure of drunkenness, as advocated by Dr. Robert D'Ungar, of Chicago, and successfully carried out by him in about 2000 cases.

The following approximation to the treatment referred to is, in the meantime, my single experience; but as it throws some feeble light upon the subject of inquiry, I beg to place it at his disposal. Immediately after the article referred to had appeared in the papers I was called upon to attend a gentleman, whose habits for a number of years had been notoriously intemperate. At the date of my visit he was labouring under incipient delirium tremens; but was so far sensible that, having had his fling, he was desirous of avoiding the consequences by getting some remedy to quench if possible his insatiable thirst for further stimulation, to soothe his shattered nerves, and to induce sleep. I was urged by a relative to try this new American plan, as other remedies on former occasions had been productive of little good. The particular tincture of the chinchona rubra not being available, I ordered twenty minims of Battley's liquor of chinchona to be given every hour instead. This was done, and after taking about two drachms his craving for the time being entirely ceased, his nerves were strengthened, he slept, and, in fact, was quite well again in two days. Alas! however, for the alleged virtues of chinchona in reclaiming the drunkard, and creating within him a lasting distaste for alcoholic stimulants. My drunkard, in fact, seemed to return to his old habits with redoubled zest; for in less than a month I was again summoned, and on this occasion found him labouring under a sharp attack of delirium tremens. I prescribed chinchona as before, which in a very short time seemed to satisfy and quench his enormous craving for strong drink, and without any further treatment I had him well again, and I fear ready for a fresh start, in four days.

To sum up and draw deductions from this small atom of evidence, coupled with a common-sense view of the whole question, it seems to me absurd to think that chinchona or any other remedy can effect a permanent cure, or create in the habitually intemperate a lasting aversion for alcohol. Although a hard task, and too often a most hopeless one, yet this most loathsome disease of drunkenness is frequently curable—curable, however, by moral means, not by physic; but the physician, whether he be lay or professional, must not expect a cure unless he himself be earnest, patient, and strong. It may, however, be found that chinchona or quinine is capable of producing all the immediate curative effects claimed for it in America, and, being a most simple and excellent remedy, it is well worthy of our serious attention at home. I mean to give it a further and fair trial; but, although Scotland is thought to offer a noble field for such investigations, I earnestly trust that it will be a very long time indeed before anyone of us can bring forward such an array of evidence as we have from Chicago.

Your obedient servant,
A. M. ADAMS, F.R.C.S. Edin., &c.,
Surgeon-Major, 2nd Royal Lanark Militia.

Lanark, N.B., April 12th, 1879.

M.B. London.—See Dr. Farr's Report on the Nomenclature and Classification of Diseases, in the Appendix to the Registrar-General's sixteenth Annual Report (1856), for the sense in which the term *miasmatic* is now used in scientific medicine—as a general term, in fact, applicable to certain diseases, which include malarious diseases. Refer to Parkes's Manual of Practical Hygiene for the best summary, as a rule, of the present state of our knowledge as to *malaria* and the several diseases other than malarious commonly spoken of as *miasmatic*, and for numerous references to more detailed sources of knowledge. Consult also the several articles bearing upon the subjects in Reynolds's System of Medicine, vol. i.; and, for the most advanced knowledge on particular parts, the later Reports of the Medical Officer of the Privy Council and Local Government Board.

E. W. P.—We cannot say.

Stanmure. — The information can be obtained at 6, Whitehall-place (Army Medical Department).